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# FIRST NATIONAL BANK PLAZA CHICAGO, ILLINOIS

PILOT STUDY in POST CONSTRUCTION EVALUATION

FEDERAL SAVINGS





**A PILOT STUDY in  
POST CONSTRUCTION EVALUATION**

**FIRST NATIONAL BANK PLAZA  
CHICAGO, ILLINOIS**

**PREPARED BY:  
THE DEPT. of LANDSCAPE ARCHITECTURE  
UNIVERSITY of ILLINOIS-URBANA-CHAMPAIGN**

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## SPECIAL THANKS

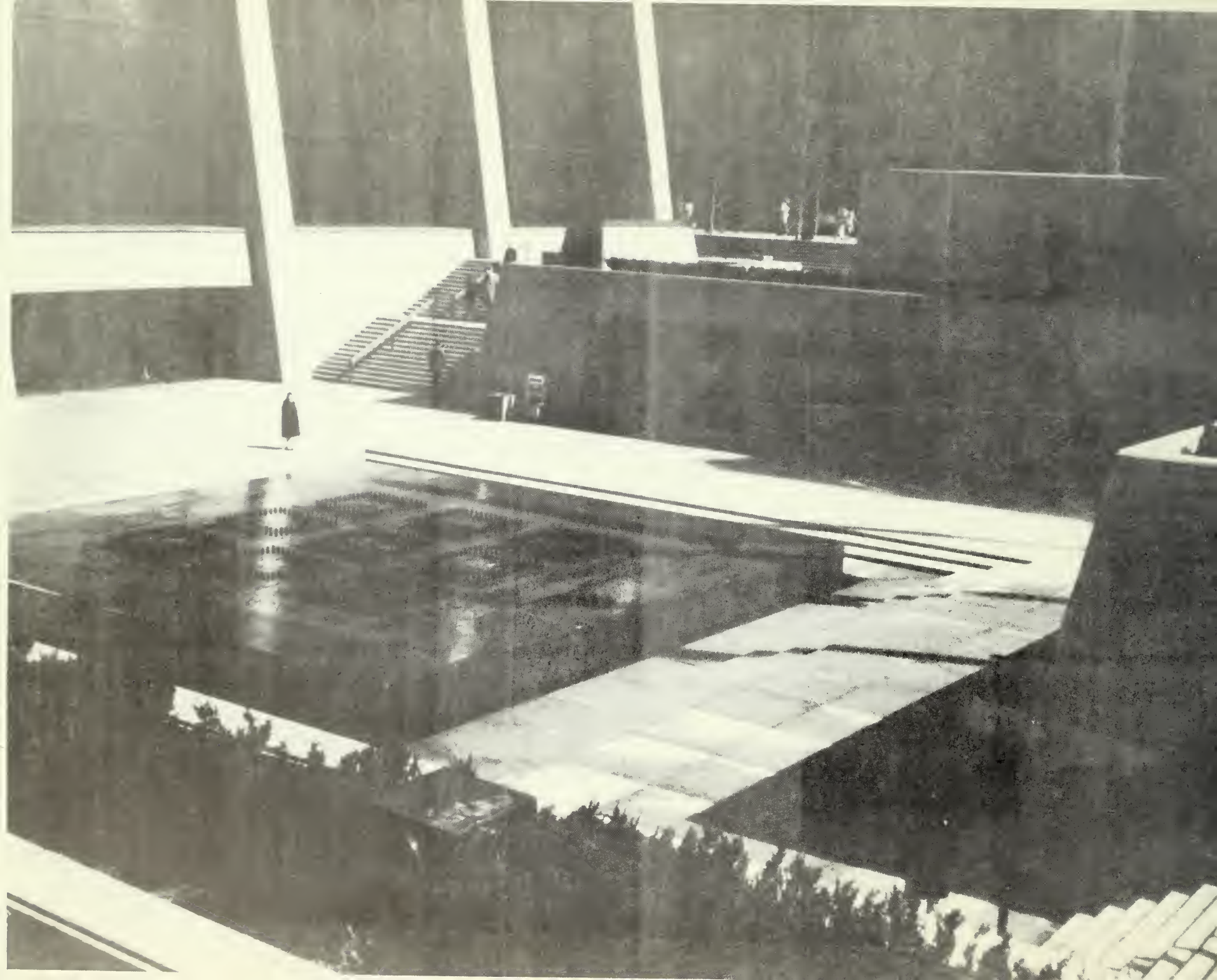
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Novak and Carlson, Landscape Architects

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## PREFACE

... about post construction evaluation

Most as-built evaluations of environmental design work, especially as conducted by designers-turned critics, are characterized by a common approach. Constructed projects are inspected as if they were simply enlarged scale models with critiques directed to the ways in which their physical features have been put together. Left largely unrecognized is the most striking difference between model and reality. The latter has live people, the actual subjects in whose service the work is intended. Their reaction is seldom, if ever, measured under conventional practice.]

This is not to cast a cheap shot at traditional

procedure. Nor is it to slight the significance of the results it can produce. Such technical factors as drainage and material soundness and such aesthetic perspectives as building settings and approach treatments are as able to be appraised through the eyes of disinterested critics as they are vital foundations for a design's success. To deny users a viewpoint, however, is to grievously limit the evaluation, for it leaves untested a host of assumptions about the work.

Invariably, design criteria are rooted in assumptions about how a place will be used and valued by persons other than the designer. Clear-cut examples are often found stated in the program as overriding objectives, say a proposition that the enhancement will attract shoppers. Scores of implicit assumptions are wound up in the design itself: by the simple act of assigning a bench to a particular spot, the designer has assumed, in the least, that it will be used ... undoubtedly for sitting ... and perhaps, precisely for conversation or viewing.]

Because of the degree to which assumptions order design decisions, their correctness deserves to be challenged. Did it actually turn out that way? To receive a total impression of how it did turn out, unplanned for usage ought to be known as well. In summary, the user dimension must be considered in any post construction evaluation if the appraisal is to be at all comprehensive.

Presently, the practice is in its infant stages. Only a handful of user-based evaluations exist via the efforts of a few behavioral scientists and an even smaller number of designers. By evidence of results, neither profession can claim to fully possess the equipment necessary to perform the work. Regardless of whom has undertaken the assignment, scientist or designer, methods remain primitive and conclusions

have most often been shaky. Reasonably, both professions have a perspective to furnish, the designer spurred on perhaps by a recognition of the contribution such studies might make to the improvement of his art.

Encounters with environments in use can induce a sensitivity to the behavioral needs of people. Specific findings can form the basis for revising a work into a more effective state. Or they can be fed back into the problem solving process when dealing with a design for similar conditions. Thereby, a greater coincidence between designer's assumptions and actual usage might ensue.

The unpredictable will always be present. But possibly, through a continuing feedback of user responses, the surprises may become few, minimally consequential and spaced far apart.

## INTRODUCTION

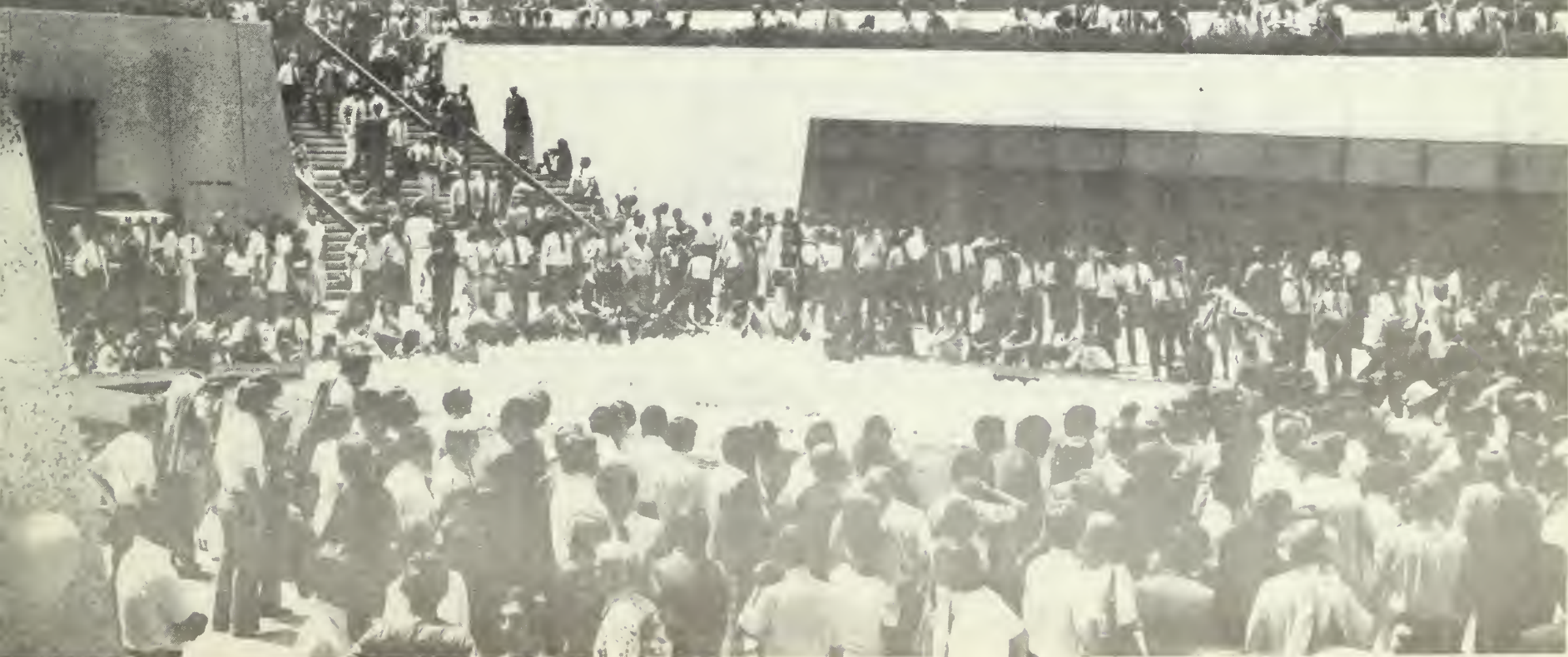
... about this report

The following pages illustrate an attempt to gather and analyze user response to the First National Bank Plaza in Chicago, Illinois. It results from a spring-summer 1974 graduate student workshop in the

Department of Landscape Architecture at the University of Illinois in Urbana-Champaign. The workshop is one step in an ongoing effort within the Department to deal with post construction evaluation and its implications for design. In turn, post construction evaluation is a part of a landscape architecture graduate concentration which addresses itself to an understanding of how human behavior and physical design affect each other.

This is a pilot study. In that respect, it does not offer a full representation of user reaction to the Plaza. The purpose of the work was to investigate methods, shake down data gathering instruments, hone interpretive abilities and otherwise establish a point of departure for more incisive ventures yet to come. This report should therefore be looked upon less as an evaluation of the Plaza than as a display of what was done and how it was accomplished.

While it is primarily meant to serve an in-house function, some of its aspects may prove useful for others on the verge of launching similar studies, including the many problems which were encountered. Those whose work is far beyond the pilot stage may benefit as well, considering the outside chance that in the course of our initiation, we have stumbled upon something unique. In the least, this report should provide grist for discussing the design enhancing potential of post construction evaluations, especially user dimension studies.



Clark St.

Bank

5

Lower Level

1

planter

planter

bench

6

planter-bench

Fountain

bench

bench

bench

planter

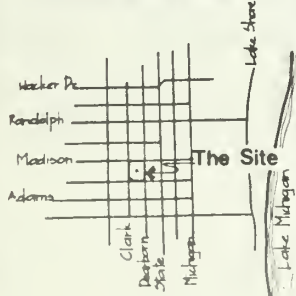
Intermediate Level

2

### LEGEND

- ◀ Building entry
- 1-7 Observation station

### LOCATION MAP



Lower Level

low planter

planter

bench

bench

Intermediate Level

3

Monroe St.

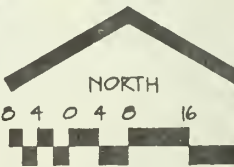
consumer finance

THE SITE

cooling unit

elevator lobby

FIG. 1



relieved by the waywardness of wind and water", etc. Although touting the Plaza as "being built for people", the evaluators treat the user dimension only in broad terms, alluding to noonday throngs and user delight according to such testimonials as "The Loop has never been so exciting before".

The fact that the Plaza had been vigorously critiqued in designer's conventional fashion is one reason why the place was selected for the study. Another evaluation, by way of a non-routine fashion, would test the promise of that procedure itself. It would be expected to produce something about the design's effectiveness not previously revealed. This would be impossible to prove inasmuch as the fine details of the previous critiques were unavailable for comparison. Nevertheless, consistent with the experimental nature of the study, it was decided to pose an operational question which could at least fuel speculation along those lines: In contrast to the Plaza's summary acclaim, would a closer look at the user dimension point out flaws of some consequence.

## 1. THE SITE

"The First National Bank Plaza gets almost unanimous raves from plaza raters, combining most of the points they say make a successful design." This quotation from the July 21, 1974 issue of the Chicago Sun-Times typifies the esteem with which the Plaza is held by its critics. Apparently, their conclusions evolve from traditional analyses, for the emphasis is upon such venerable themes as: the visual compatibility of bank and plaza brought about by the "use of matching granite and subtle slanting of vertical planes", the pleasing qualities of the sidewalk trees as "perimeter buffering", the manner in which the fountain's "geometric pattern of constantly changing columns is

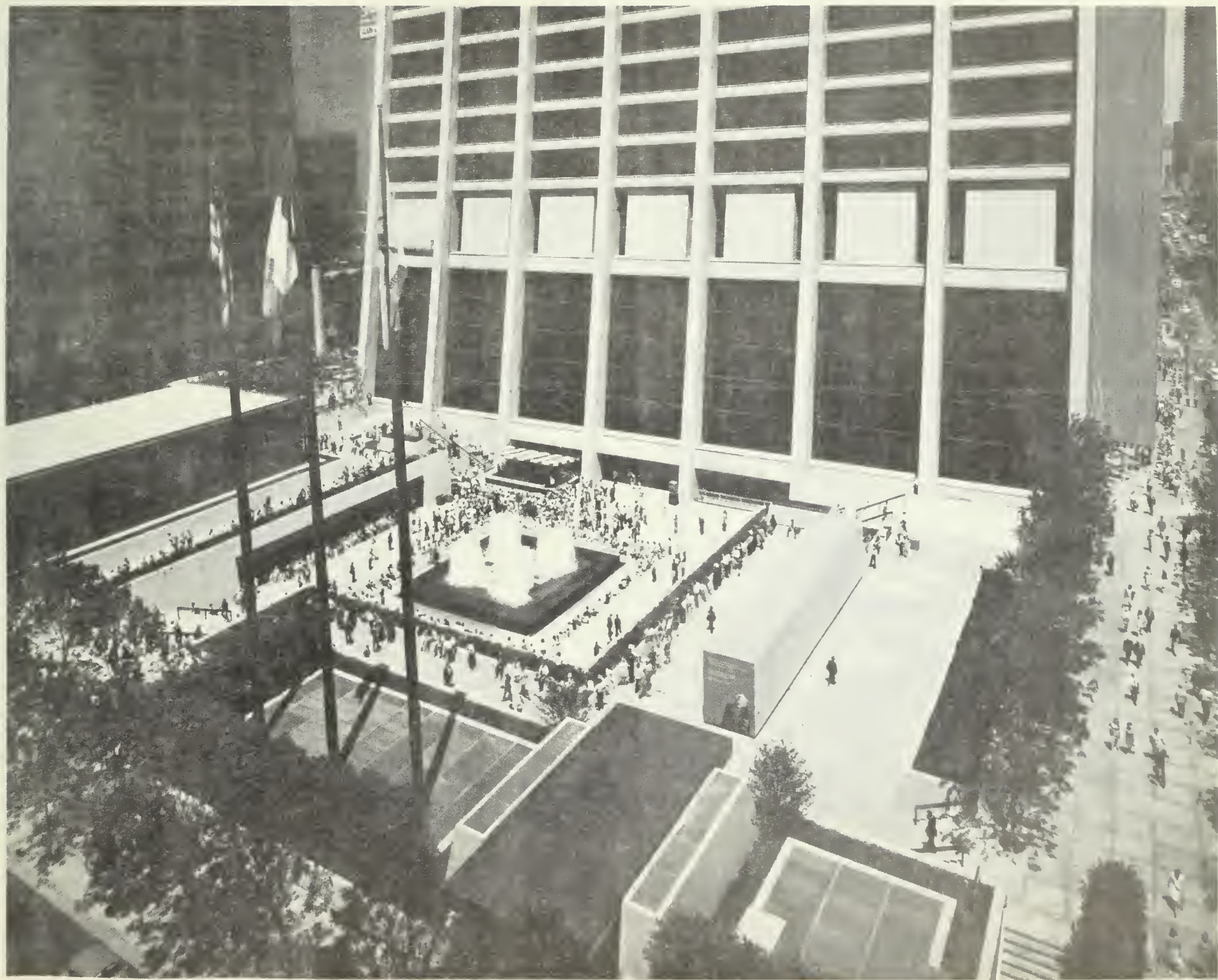
Orientation to the layout is provided by the accompanying map (Fig. 1) and photographs. The Plaza occupies an acre plus of ground in the south central segment of Chicago's main business district, the "Loop". Narrow, traffic-clogged streets separate it on the east and west from prestigious office buildings and on the south from a collection of lesser structures and enterprises.

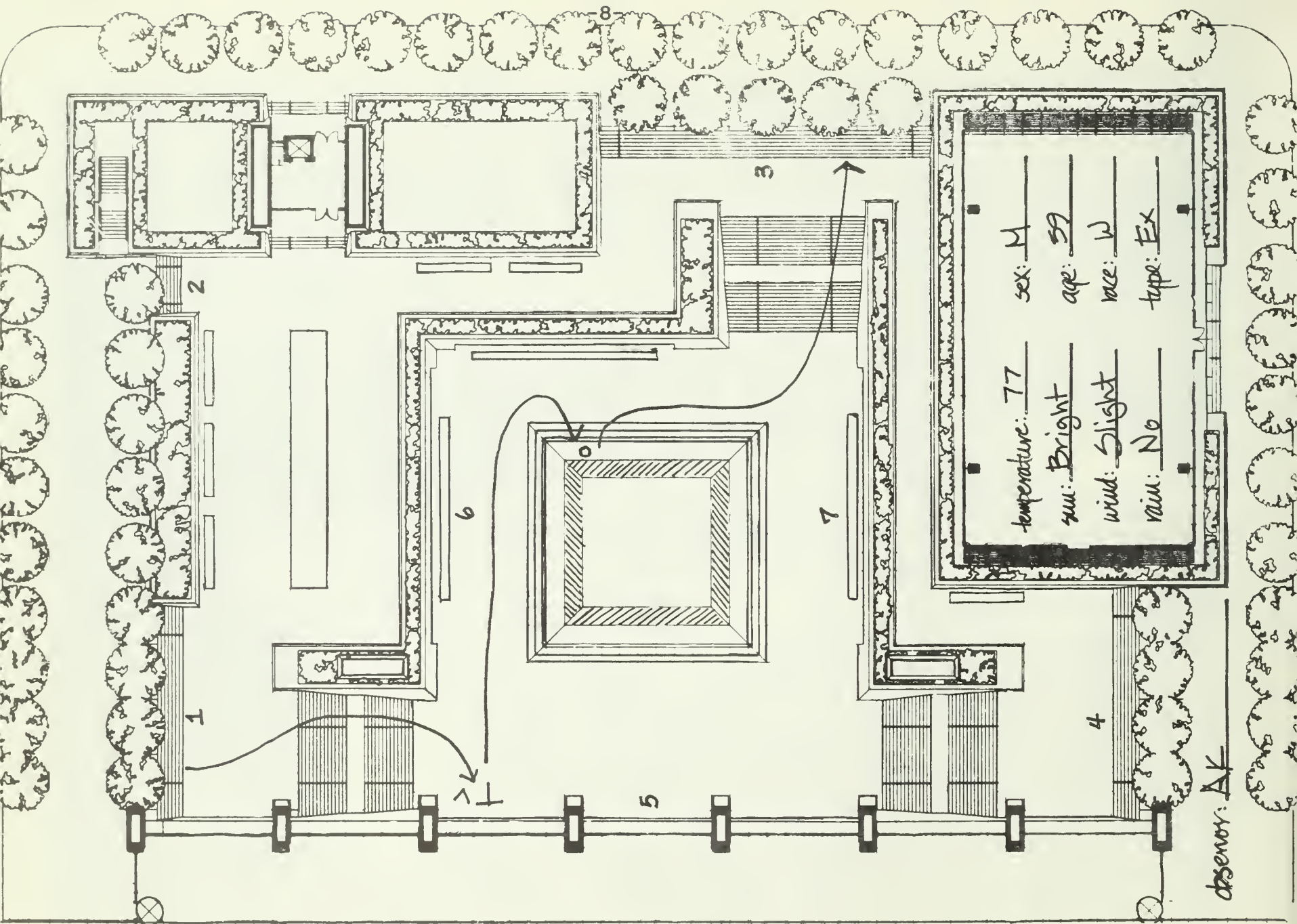
Within the Plaza's block, the imposing fifty-seven story First National Bank looms immediately to the north. The western rim of the block is contained by a low consumer finance building underneath which is located a coffee shop and additional bank facilities. On the southern edge, a disguised cooling structure rises about one story above the street to form the base for three towering flagpoles. It is

adjacent to an elevator lobby which services a restaurant and other public facilities below. While no building skirts the eastern perimeter, shops, a theater and access to a subway and subterranean parking garage are situated there beneath the Plaza's intermediate level. The parking garage is also accessible from the bank and coffee shop.

The Plaza's decking is divided into three horizontal planes. The first, essentially a tree-bowered sidewalk, is at street grade and is not shown on the drawings. The intermediate level is reached by banks of steps, its eastern leg distinguished by a multi-sided Chagall mosaic which, at the time of this study, was boxed from inspection awaiting its final touches. The lower level is punctuated by a central fountain and contains entries to the coffee shop on the west, shop-subway concourse on the east and bank on the north. Window walls on all four sides of the lower level permit viewing from inside the peripheral buildings.

This study is addressed to the intermediate and lower levels of the Plaza.





SAMPLE WORKSHEET

FIG. 2

questions shown in Fig. 3.

From these sources, the following assumptions about the place were compiled:

The overall space was designed to:

1. draw a variety of people ... no particular "type" ... just anyone and everyone.
2. serve basically as a through walk or access way to peripheral buildings and/or a place to sit, watch and relax.
3. be flexible -- service its basic functions as well as be adaptable for special events as exhibits and entertainment programs.

The intermediate level was meant as:

4. a place for observing the fountain and happenings on the lower level.

The lower level was planned so as to:

5. minimally encumber spontaneous behaviors.

In addition, entries, windows, planters, benches, stairs and fountain were isolated for particular attention as to whether or not they served their basic functions with ease and also the kinds of unusual usages they attracted.

This is by no means an exhaustive portrayal of the designers' intentions. Rather, it is a selective list, stopping at a point sufficient to orient a pilot study. The items implied the kinds of evidence which the information gathering procedures ought to produce.

## 2. THE METHOD

The following is a brief look at the procedures and instruments which were employed.

### The Focus

Since the study was to determine how a design actually worked, the first step was to determine how it was supposed to work. This began by reviewing the plan and abstracting the obvious intentions of some of its parts (sitting for benches, access for entries, etc.). It was followed by interviews with the Plaza's architect and landscape architect as to their objectives. The interviews were open-ended as guided by the

## Observations

As an indirect means of arriving at user response, a systematic way of looking at activity in the Plaza was desired -- one that might not only reveal the relative coincidence between the focus assumptions and actual usage, but also other contentions in respect to the user and the built environment which were not flagged in the initial step. Behavioral mapping procedures employed in some reaches of the social sciences were adapted to meet these needs. As for means of application, movie and video instruments were ruled out because of their expense; a paper and pencil recording technique therefore had to be designed.

It was decided to notate information about users on 8"x10" maps (exemplified by Fig. 2) according to instructions indicated in Fig. 6. Subjects were to be identified as to sex, age, race and "type", the latter coming from user categories (Fig. 4) imagined to typify whom an urban plaza might draw. Their movements were then to be traced about on the map and their activities recorded where they occurred by way of symbols pulled from a list of anticipated behaviors (Fig. 5).

Behavioral mapping has been known to produce four categories of information: Who the people are, what they are doing, where and when. However, commonly used techniques, unless they are extensively film aided, are not well suited to collecting all of the bits in one fell swoop. When is simple to come by regardless of technique -- just note the date, time, etc. Beyond that, the usual instruments provide two of the remaining bits, but seldom the third: strictly whom and what by making counts on a tablet; or where and what by placing notes on a map.

The difficulty with paper and pencil methods resides with the number of subjects found in the place,

and if they be more than a handful and particularly in droves, the sheer inability to put down all the data needed to represent a scene at one point in time. To substitute filming for hand work does not fully resolve the problem, for while film or tape can be replayed as many times as needed to extract all the bits, the camera has its own limitations beyond just expense. High vantage points are required, but not always available. Distances demanded for a full panorama becloud many details and obstructions are often present to obscure portions of the site.

It was therefore decided to investigate how far paper and pad could actually be taken. If the problem was too many people at once, yet it remained necessary to amass information as could be provided by the stop action recording of a series of full scenes, could representative patterns be built up from the records of many subjects registered one at a time?

This experiment was the primary departure from standard procedures. Who, what, where and when were to be given equal due in the recording process, all of the information noted for individuals from the time they entered the site until they exited. As explained in the instructions and illustrated by Fig. 7, subjects would be chosen by random selection at various entrances to the Plaza. In that the subject would be tracked about, traffic flows might also become known, hence provide another facet missing from the usual methodologies which tend towards the exclusive production of stationary data.

## User Interviews

To complement the observations, interviews were to be conducted (as it turned out) with 80 Plaza users. The questions, displayed in Fig. 8, were kept to a minimum so as to require only a few minutes of a respondent's time. Members of the observation team

were to do the interviewing, reasoning that their observation work would have primed them with follow-up questions.

Subjects were to proportionally represent the Plaza's user "types". Otherwise, they were to be selected at random.

#### Backdrop Photography

Thirty-five millimeter slides were to be taken hither and yon about the Plaza for general illustrative purposes.

#### Band-aids

Information was to be gathered for a range of typical days and times in the life of the Plaza. This intention became subverted by Mother Nature who, in her whimsical way, decided to bombard the Midwest during the spring and early summer of 1974 with back-to-back cold spells, rain torrents and tornadoes. Further hampered by academic year time restrictions, the fieldwork became reduced simply to when it could be done. This turned out to be but ten cumulative hours. The resulting data which follows is displayed as if it were collected over one day. Whereas, in reality, it was patched together from three separate journeys to the site, each occasion beginning at the hour where the previous one had to be terminated.

The interview strategy fell victim to the same circumstances. Instead of being conducted by the observers whose energies were being consumed by the scrambling for clear days, the interviews were turned over to employees of the bank. Their work was exemplary. The sampling, however, became totally random inasmuch as the instruction to approach a representation of user types was inadvertently left out in the reassignment.

Recognizing early on the inevitability of diminished returns and assuming the possibility that the random sampling observation technique could bomb out entirely, the photographer's role was upgraded. Firstly, the camera person was to take a panoramic series of slides on the hour. In the least, this would provide density information useful in adjudging the most popular areas should the tracking about matter end up too spotty for making that determination. Secondly, the photographer was to record specific confrontations between users and the environment as they came to his attention, considering the likelihood of their being passed over in the cut-down version of the original observation scheme. While such instances might not be able to be supported by weight of repetitiveness in the record (as it was hoped all of the findings could be), they still could be offered on their merits to raise hypotheses about the fitness of the place.

## QUESTIONS FOR DESIGNERS

### FIG. 3

1. Who specifically was the client on this project? With whom did you deal during the design development stage? How would you describe your relationship?
2. Were any other professionals involved in the design?
3. What were the design criteria for the project?
4. Who established those criteria?
5. Who decided finally what would be included in the project?
6. Why were these things included?
7. Were there any special considerations or restraints imposed which were uniquely important to the final design? (Funds, city codes, etc.)
8. Who did you expect to use the project? Why?
9. Would you please describe how you expected people to use the various parts of the site? How was this established?
10. What special design considerations were necessary to satisfy the intended users and their activities?
11. Have you been to the site since it has been completed? Were people using it as you had anticipated?
12. How do you feel about the site as built? How do you think the users feel about the site?
13. What parts do you think function best? Worst?
14. Are there things happening on the site which you had not anticipated, and feel should, or would have been designed for?
15. If you had the opportunity would you change any parts of the site? Why?
16. Would you change your design process if you were commissioned to do another project like this one?

Executive  
White Collar  
Shopper  
Blue Collar  
Transient  
Freak  
Tourist

Coat & Tie  
Tie, Skirt  
Bundles  
By Clothing  
Disheveled  
Long Hair  
Camera

USER TYPES FIG. 4

⊥ Standing  
└ Sitting  
↘ Walking  
↘ Running  
⊥ Lying  
∠ Watch  
∪ Eat  
~ Talk  
△ Play  
▽ Read  
Z Sleep  
♀ Exhibit  
♡ Love  
○ Other

BEHAVIORS FIG. 5

# INSTRUCTIONS FOR OBSERVERS

## FIG. 6

Investigations include observations at the plaza level and 35mm slides taken from the fifth floor of the bank building (for purposes of recording density).

Each observer shall have the following:

1. Mechanical pencil or ball -point pen.
2. 3-ring, loose leaf notebook.
3. 100-150 plaza maps with symbol and personal data legends on the reverse side.
4. Station selection chart.
5. Random selection chart.
6. Watch (synchronize with other observers).
7. Stop watch.
8. Camera (35mm with slide film).
9. Good handle on procedure.
10. Camera (35mm w/28mm lens for density slides -- one only).

### Schedule for Observers

Two (2) observers per hour with one (1) additional observer between 12:00 - 1:00 and 1:00 - 2:00 (plaza level).

One (1) observer taking density shots with camera from the fifth floor of the bank building. Densities can be taken by visual observation, at fifteen minute intervals, and recorded on a map, if the plaza is not overly crowded.

| <u>Time</u> | <u>Observers</u> | <u>Density</u> | <u>Time Off</u> |
|-------------|------------------|----------------|-----------------|
| 8:00A       | Lou - Art        | Bob            | Mark            |
| 9:00        | Lou - Art        | Mark           | Bob             |
| 10:00       | Mark - Bob       | Art            | Lou             |
| 11:00       | Lou - Bob        | Mark           | Art             |
| 12:00P      | Lou - Art - Mark | Bob            | ---             |
| 1:00        | Art - Mark - Bob | Lou            | ---             |
| 2:00        | Lou - Bob        | Art            | Mark            |
| 3:00        | Lou - Art        | Mark           | Bob             |
| 4:00        | Art - Mark       | Bob            | Lou             |
| 5:00        | Mark - Bob       | Lou            | Art             |

### Observers

One (1) map per person.

Information contained on map:

#### Front

1. Stations (points of entry and exit) by number (1 thru 7) for reference to station selection chart.
2. Personal data space.
3. Eco-data space.
4. Signature of observer space.

#### Back

1. Symbol legend for behaviors.
2. Personal data (type) legend.

Random selection and station selection charts will be separate.

Follow selection charts and legends religiously.

### Density

Slides every fifteen (15) minutes of the total plaza area (2 or 3 exposures each time). Record time and number of slides (label roll) for each series. Densities can be taken by visual observation,

at fifteen minute intervals, and recorded on a map, if the plaza is not overly crowded.

Steps for Observations (Plaza Level)

1. Refer to station selection chart for point of beginning.
2. Follow subject (selected from random selection chart) thru plaza until exit, i.e. when puts foot down on first step or when door opens.
3. On the map, record time of entry at entry point and time of exit at exit point.
4. In space provided, record personal and ECO-data for each observation (subject).
5. On the map, graphically record movement and activity of each subject. See symbol legend.
6. Time each major behavior and record adjacent to symbol on map.
7. If, at a given station, the subject as indicated on the random selection chart does not appear within three (3) minutes then follow the next subject. If no subject appears with a five (5) minute span, then circle the station, record a "no show" and proceed to the next station.
8. If "next subject" as noted in '7' above is similar to the last subject observed, then pick the next dissimilar subject and follow thru the plaza.
9. Sign each map in appropriate space.
10. When changing "guard" (each hour) the new observer will follow the station selection chart, continuing from the last station of the previous observer.
11. Behavior symbol for other (0) should, when used, have a number in the circle and the activity referenced and noted in the margin of the map.

# RANDOM SELECTION CHART

FIG. 7

5 / 3

Station Person

|       |       |       |       |       |
|-------|-------|-------|-------|-------|
| 6 / 3 | 2 / 4 | 2 / 4 | 7 / 9 | 3 / 7 |
| 2 / 8 | 7 / 1 | 1 / 3 | 4 / 9 | 5 / 5 |
| 3 / 7 | 2 / 2 | 5 / 5 | 7 / 1 | 7 / 1 |
| 6 / 4 | 1 / 8 | 7 / 3 | 1 / 4 | 3 / 6 |
| 3 / 4 | 1 / 3 | 1 / 6 | 4 / 6 | 6 / 5 |
| 1 / 2 | 3 / 5 | 7 / 3 | 1 / 8 | 6 / 7 |
| 1 / 7 | 6 / 9 | 4 / 2 | 6 / 1 | 6 / 5 |
| 3 / 2 | 2 / 5 | 4 / 7 | 6 / 5 | 5 / 2 |
| 3 / 1 | 4 / 1 | 6 / 4 | 5 / 6 | 2 / 4 |
| 1 / 3 | 2 / 7 | 6 / 8 | 1 / 2 | 1 / 2 |
| 5 / 1 | 6 / 8 | 1 / 8 | 3 / 3 | 5 / 1 |
| 4 / 2 | 5 / 1 | 5 / 1 | 5 / 9 | 5 / 3 |
| 7 / 7 | 3 / 8 | 2 / 3 | 6 / 6 | 5 / 1 |
| 6 / 1 | 3 / 6 | 5 / 1 | 5 / 8 | 6 / 4 |
| 4 / 4 | 2 / 8 | 7 / 7 | 3 / 4 | 5 / 9 |
| 7 / 1 | 7 / 4 | 7 / 3 | 6 / 4 | 2 / 1 |
| 5 / 8 | 1 / 8 | 2 / 7 | 2 / 6 | 3 / 5 |
| 4 / 4 | 3 / 6 | 1 / 1 | 7 / 5 | 5 / 2 |
| 4 / 2 | 6 / 6 | 7 / 4 | 3 / 7 | 7 / 3 |
| 6 / 5 | 2 / 3 | 5 / 8 | 2 / 7 | 4 / 6 |
| 5 / 1 | 2 / 1 | 1 / 3 | 5 / 9 | 5 / 8 |
| 2 / 6 | 1 / 2 | 2 / 5 | 1 / 1 | 2 / 6 |
| 7 / 9 | 1 / 8 | 5 / 6 | 7 / 1 | 6 / 6 |
| 5 / 2 | 3 / 6 | 6 / 3 | 2 / 8 | 7 / 5 |
| 3 / 1 | 4 / 7 | 5 / 7 | 3 / 8 | 2 / 3 |

## INSTRUCTIONS FOR INTERVIEWERS

### FIG. 8

#### Instructions:

Attempt to interview a variety of user types proportional to the numbers observed previously.

Attempt to interview people at various locations ... do not gather all of your interviews from one location.

Before questioning, inform the interviewee as to your identity, the nature of your inquiry, etc. Make him/her comfortable.

Fill in personal data after the interview.

#### Questions:

1. Why do you come to this Plaza?
2. What do you usually do here?
3. Where did you come from (in the Loop) to get to the Plaza?
4. What do you like most -- and least -- about the Plaza?
5. How would you change or modify this Plaza to make it better?

#### Personal Data:

Sex \_\_\_\_\_

Age \_\_\_\_\_

Race \_\_\_\_\_

Type \_\_\_\_\_

Clark St.

Bank

Dearborn Ave.

Steps pose obstacles for elderly and handicapped.

Sitters gravitate to edge leave corridor in middle

Temporary Stage interrupts circulation  
- when not in use attracts clusters of people  
- when in use masses block bank entry

Temperature markedly higher at lower level especially in afternoon with sun beating down here ...

Sitters gravitate to edge leave corridor in middle

Steps pose obstacles for elderly and handicapped

Hazardous Corner

Hazardous Corner

Water touching here

Water touching here

Water touching here

Fountain

Water touching here

Hazardous corner

Hazardous corner

Chagall

Boyle scale wall for clear view of lower level

Height of plant material cuts view of passers-by; sitters on wall must twist to see below

Sitters gravitate to 'edges' leave corridor in middle

Low planter extremely uncomfortable sitting

Tables and chairs placed here for outdoor cafe blocks traffic

Elevator entry obscure steps must be negotiated

Steps pose obstacles for elderly and handicapped

Monroe St.

# INFO. POOL ISOLATED CONCERNS

FIG. 9



### 3. THE INFORMATION POOL

This section illustrates how the observation and interview results were arranged so as to give an overview of what went on in the Plaza during the data collecting period.

(Please note: To illustrate all of the ways in which the base data was shuffled would result in an unwieldy package. Therefore, in most cases, only representative examples are shown.)

#### Densities

Half hour population counts were tabulated from 35mm slides (Fig. 10) then related to time (Fig. 11) and place (Figs. 12 through 15). The latter show the work-ups for 9 am, noon, 2 pm and 5 pm ... typical urban arrival, lunch hour, mid-day respite and departure hours. Similar maps showing user locations were roughed out for each half hour increment between 8 am and 6 pm.

#### Behaviors (systematically accumulated)

Data generated by the mapping procedure was first drawn up as a composite of traffic lines, other ("moving") behaviors which occurred while traffic was in progress and "stationary" behaviors or those actions which took place after traffic movement had ceased. This was done for each hour according to the number of people tracked about. Figs. 16 through 19 represent the compilations for the hours of 9-10 am, noon-1 pm, 2-3 pm and 5-6 pm respectively.

Each of these information facets was then broken down by the hour and also totaled over the entire research day in a series of tables and maps. A tabular sample is shown in Fig. 20; representative maps are displayed in Figs. 21 and 22.

Data as to sex, race, age and user type was subsequently tabulated (Figs. 23 through 24) and fed into every dot and line which symbolized a person on the behavior maps. As an example, compare Fig. 22 with Figs. 25 and 26.

#### Behaviors (isolated through photography)

As illustrated by Fig. 9, places where user-environment confrontations were noticed by the on-ground photographer were identified on a map.

### User Expressions

The outcome of the user survey, including a summary of likes, dislikes and suggestions for improvements, was organized as indicated by Figs. 27 through Fig. 30.

\* \* \*

In total, these were the sources from which the findings were drawn.

**FIG. 10**  
**TABULATION**

|            |    |     |    |     |    |     |    |     |     |      |     |     |     |     |     |     |    |     |    |     |    |
|------------|----|-----|----|-----|----|-----|----|-----|-----|------|-----|-----|-----|-----|-----|-----|----|-----|----|-----|----|
| time       | 8  | :30 | 9  | :30 | 10 | :30 | 11 | :30 | 12  | :30  | 1   | :30 | 2   | :30 | 3   | :30 | 4  | :30 | 5  | :30 | 6  |
| no. people | 10 | 8   | 17 | 14  | 12 | 13  | 18 | 91  | 723 | 1033 | 785 | 560 | 303 | 126 | 162 | 73  | 68 | 46  | 57 | 30  | 31 |

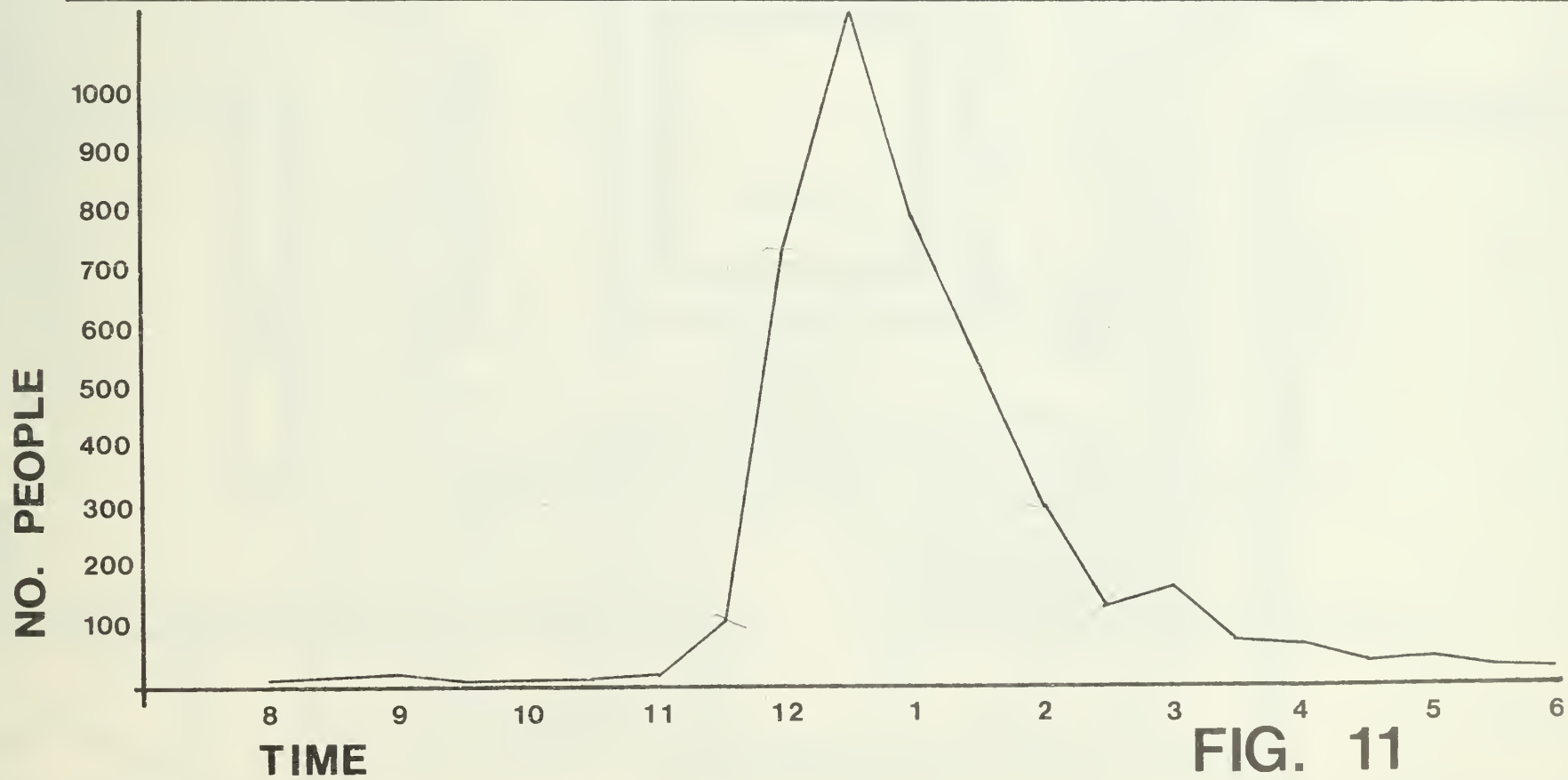
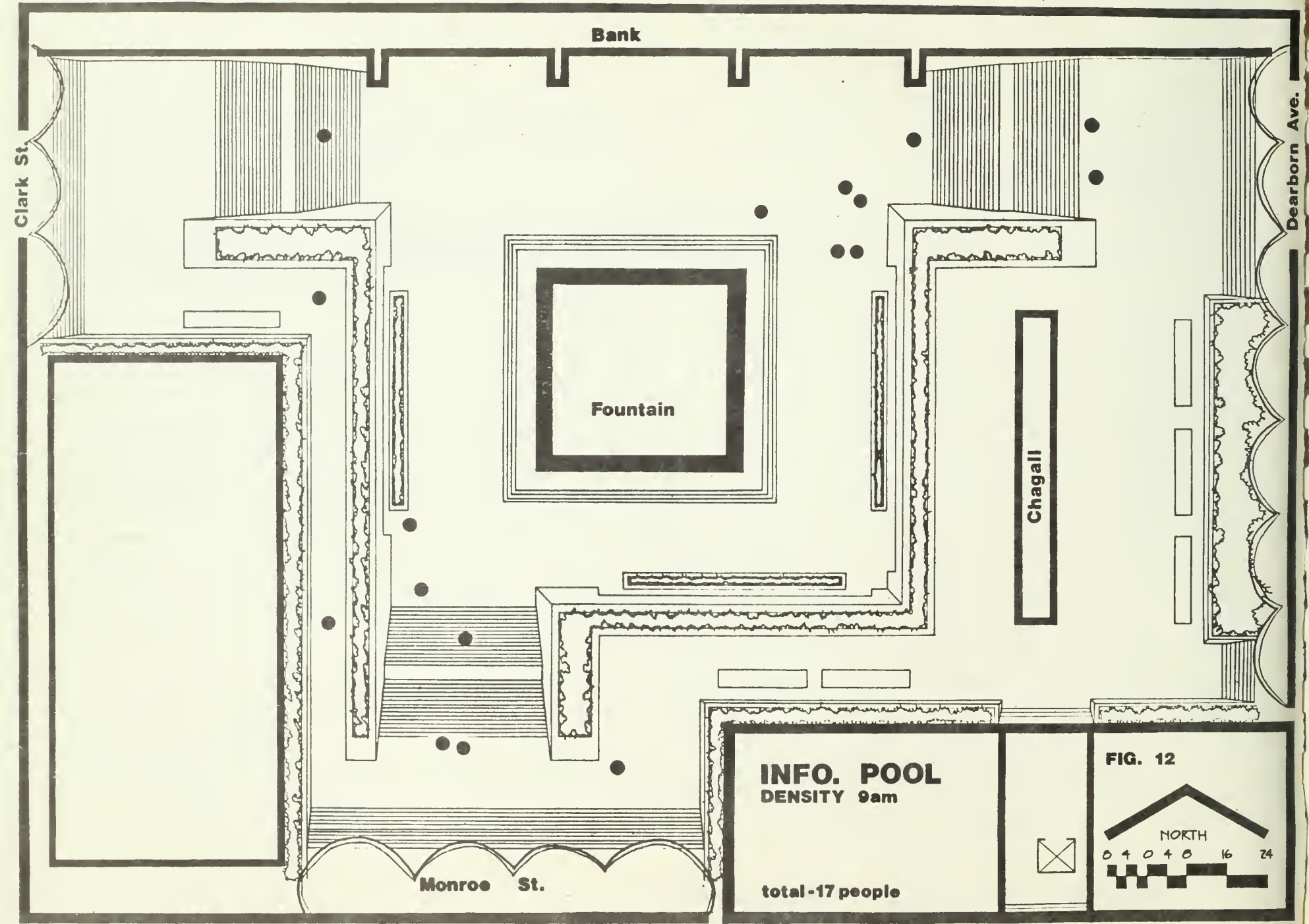
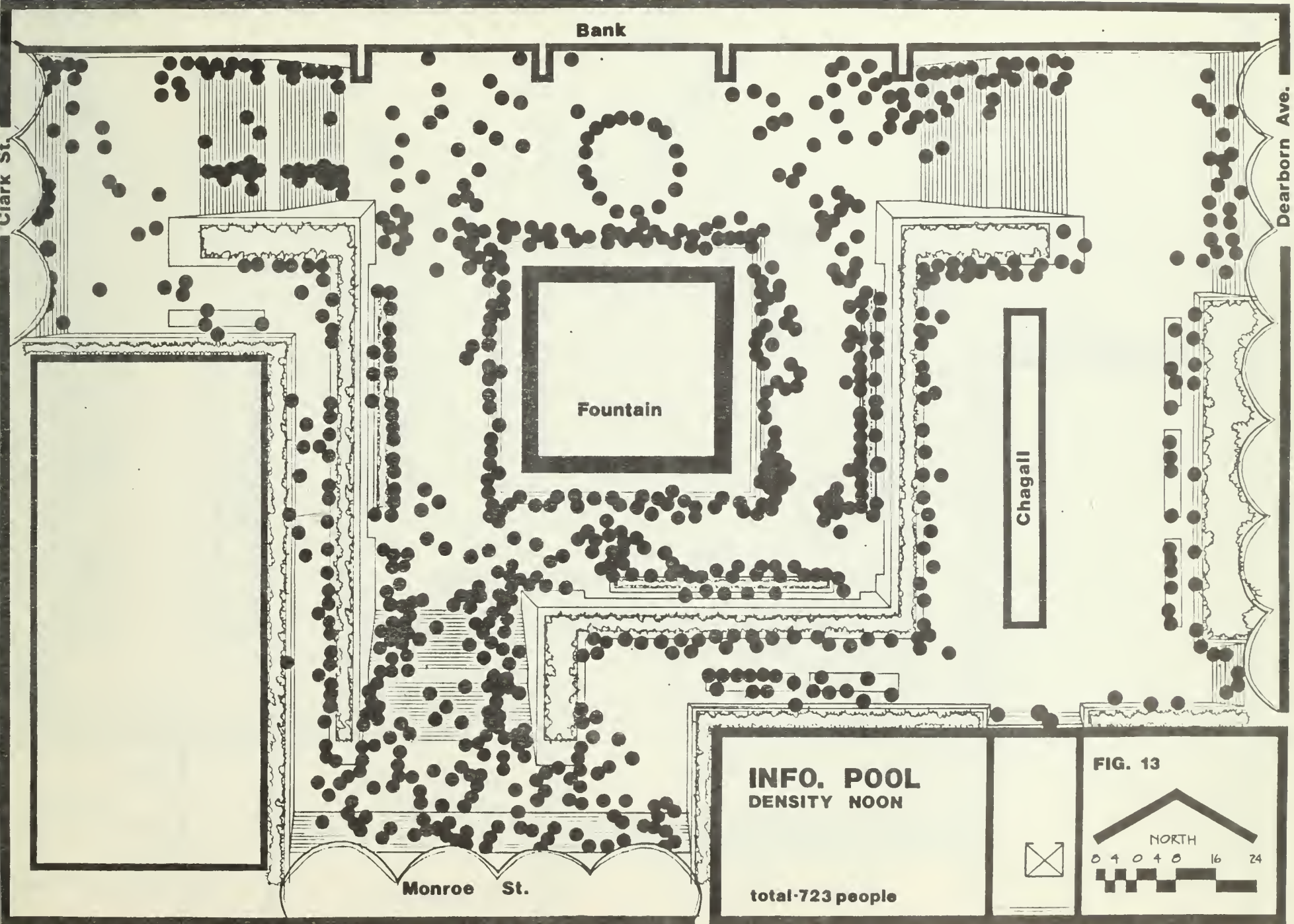
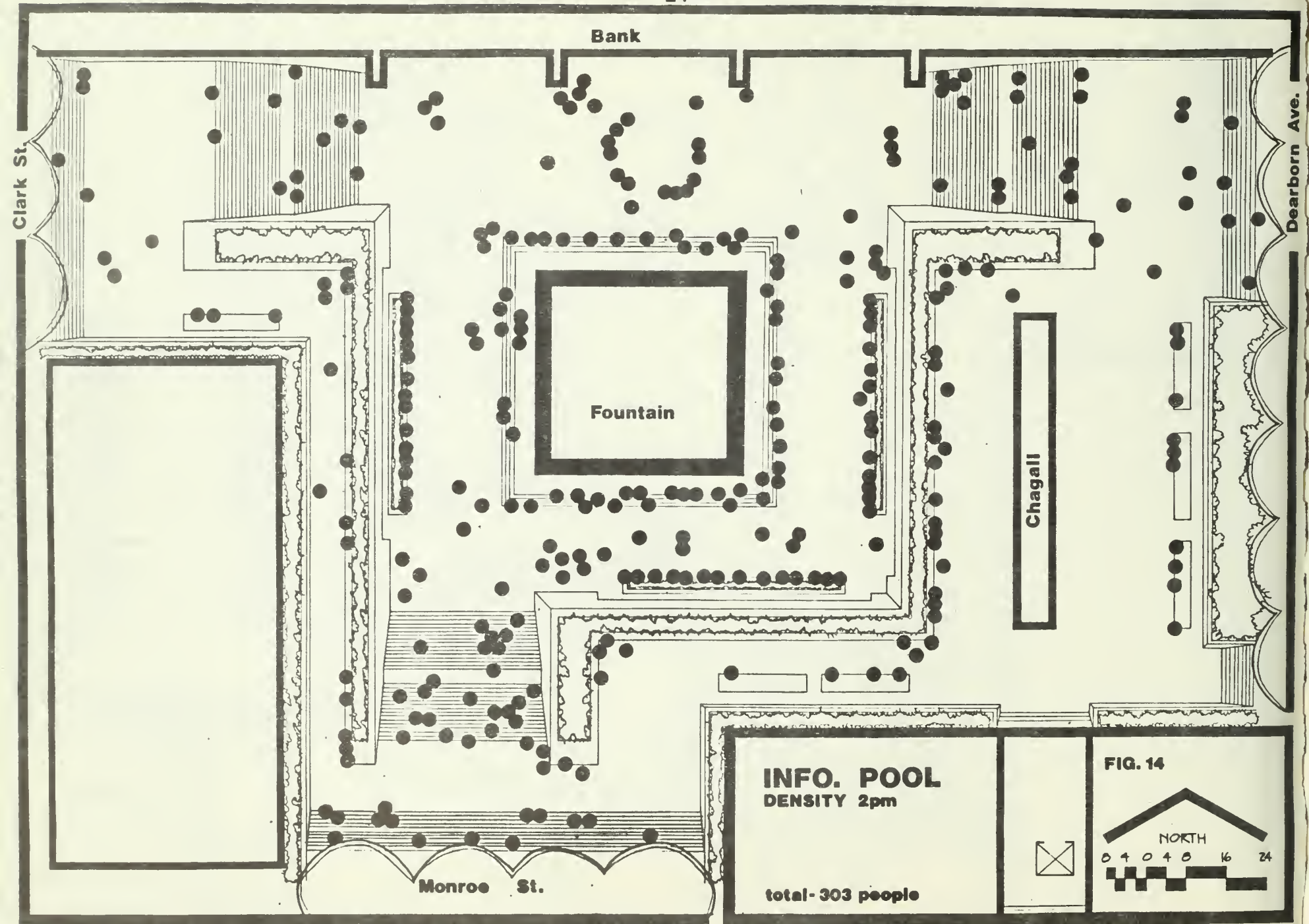


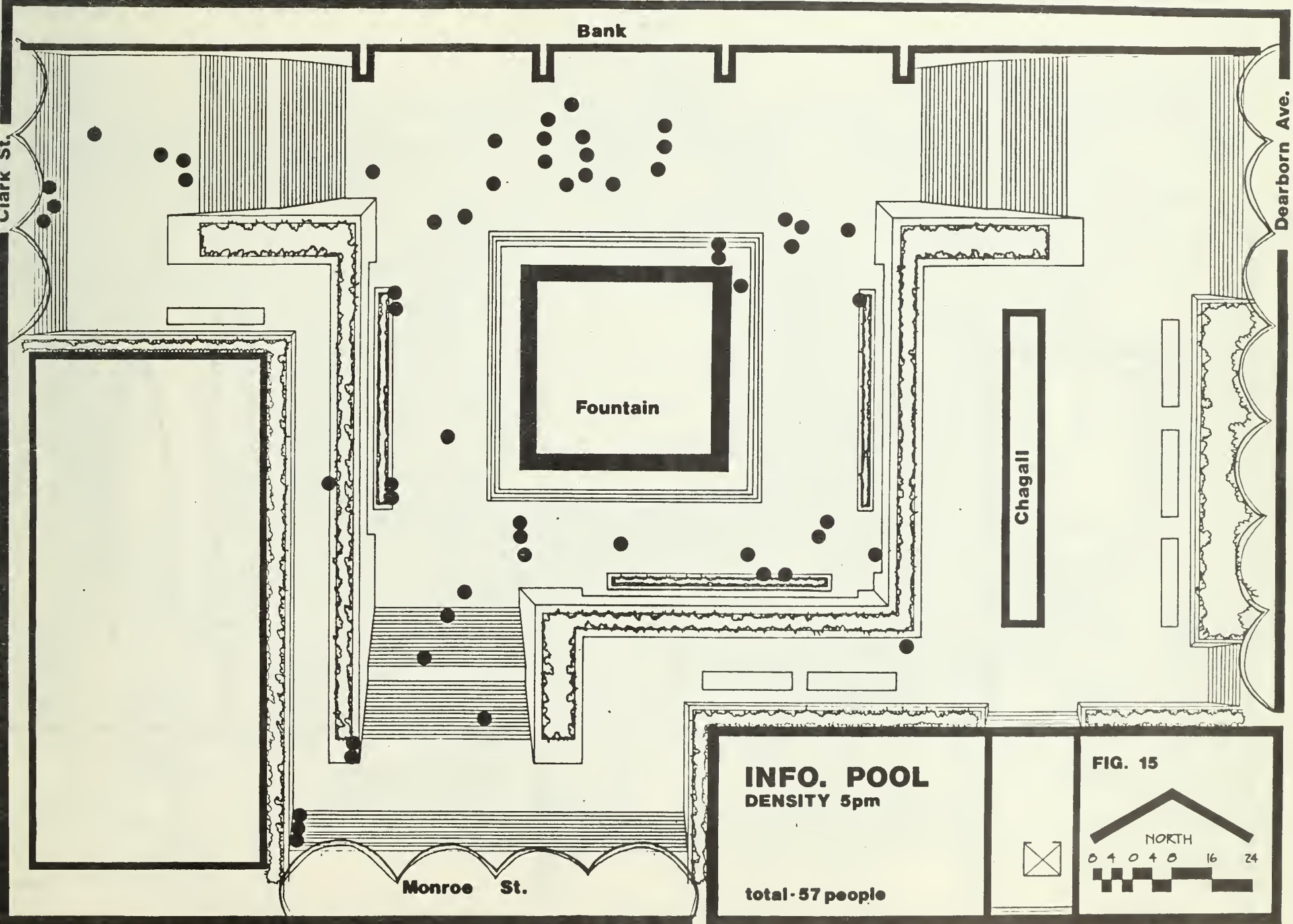
**FIG. 11**

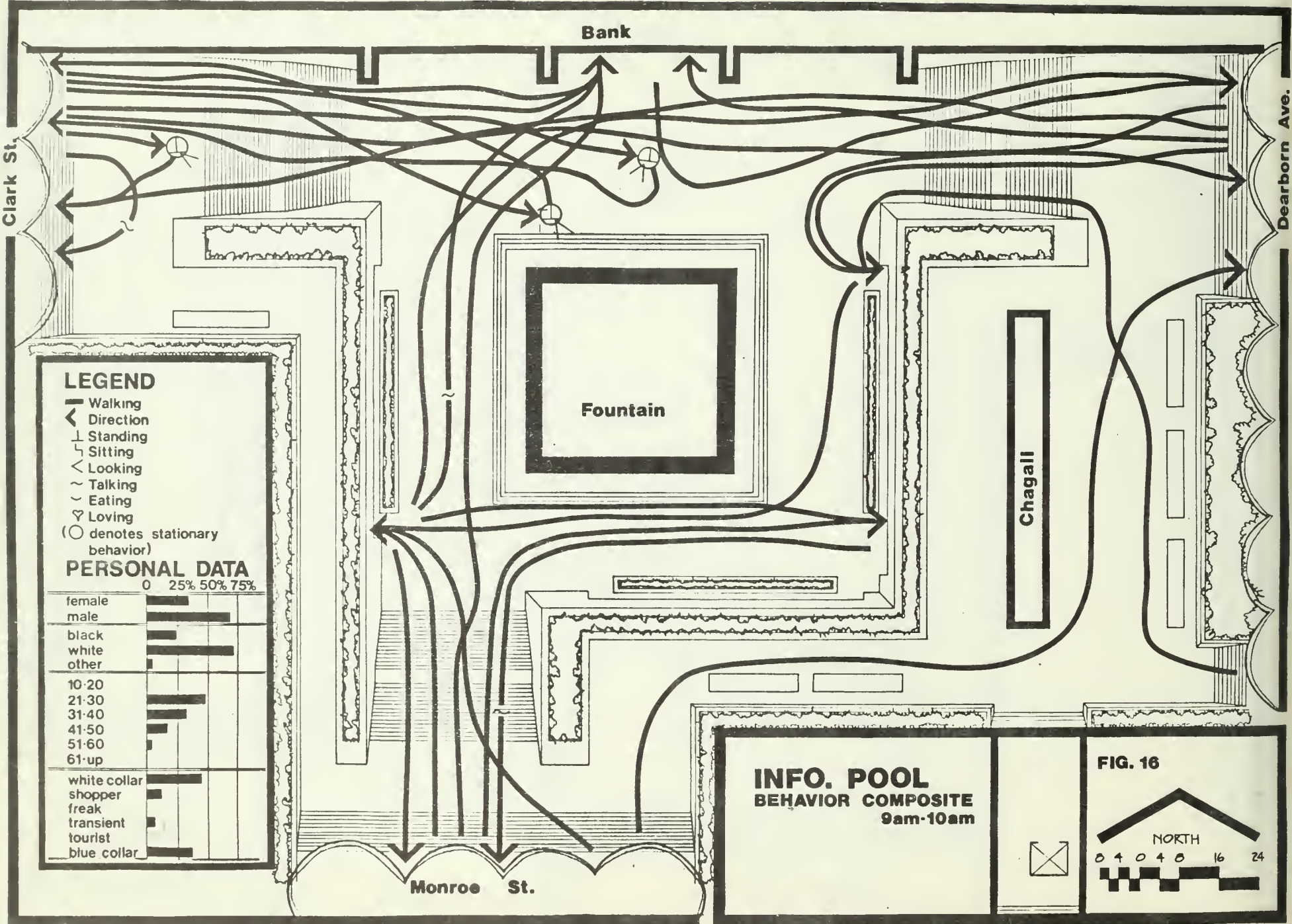
**POPULATION COUNT**

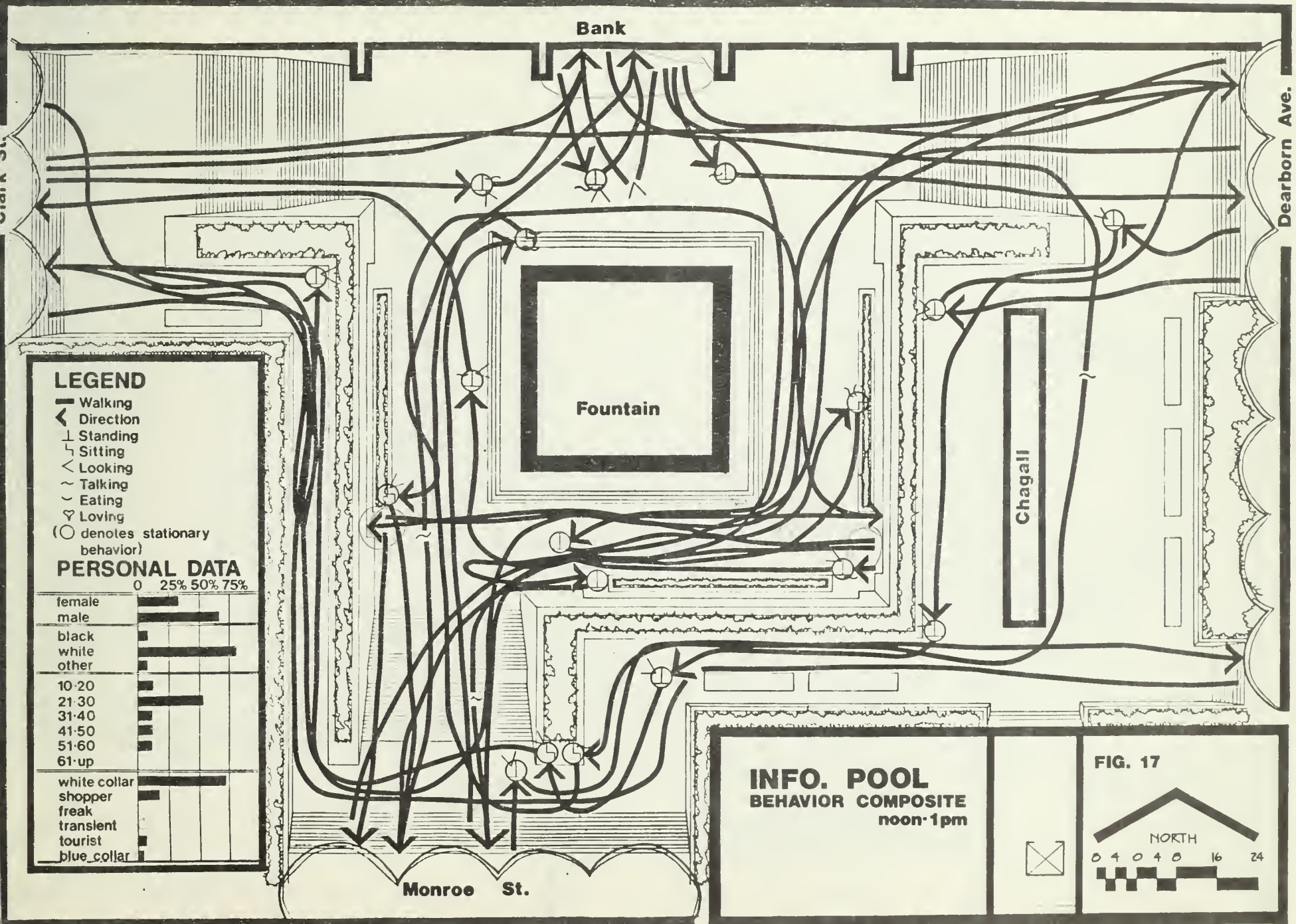


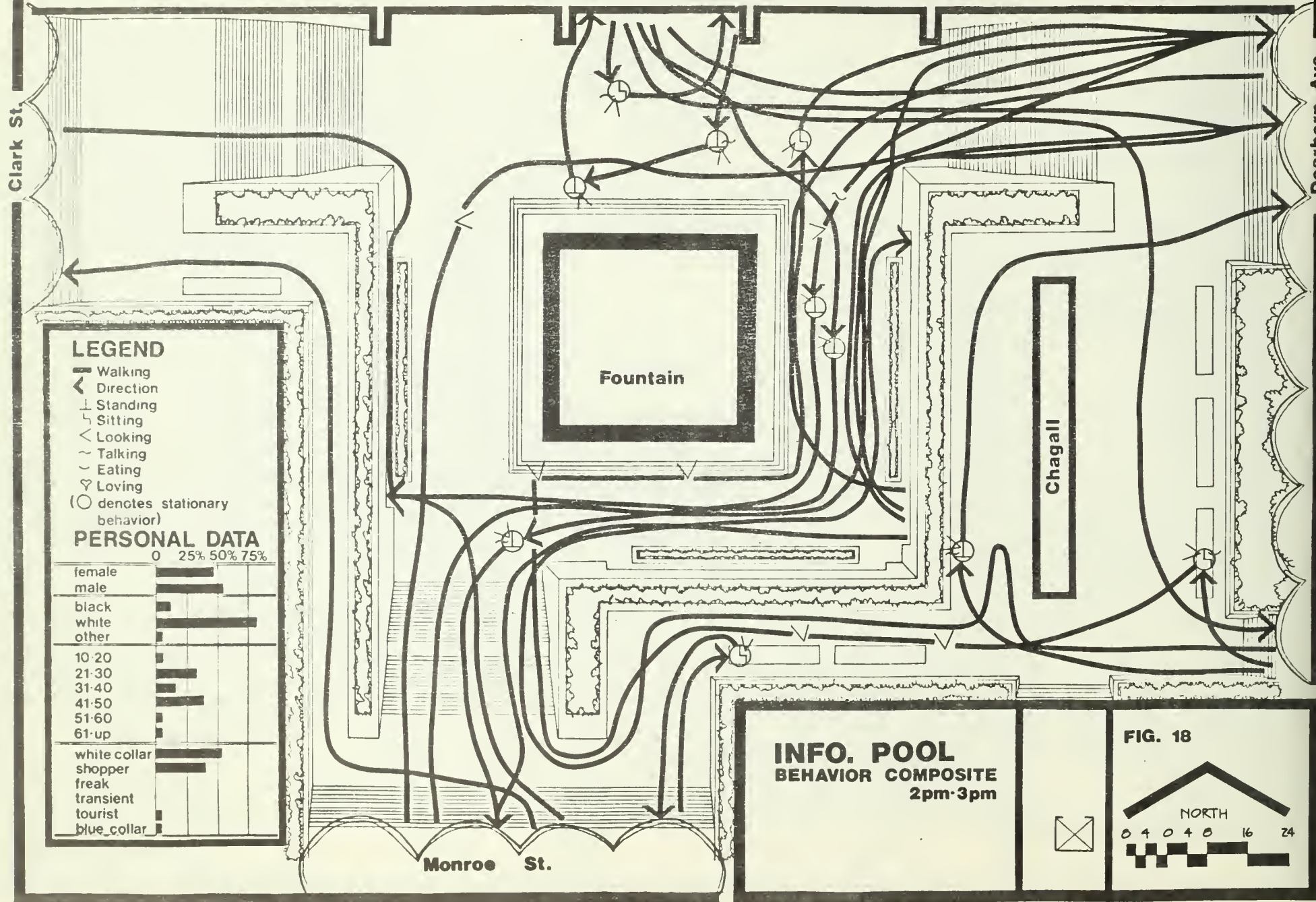


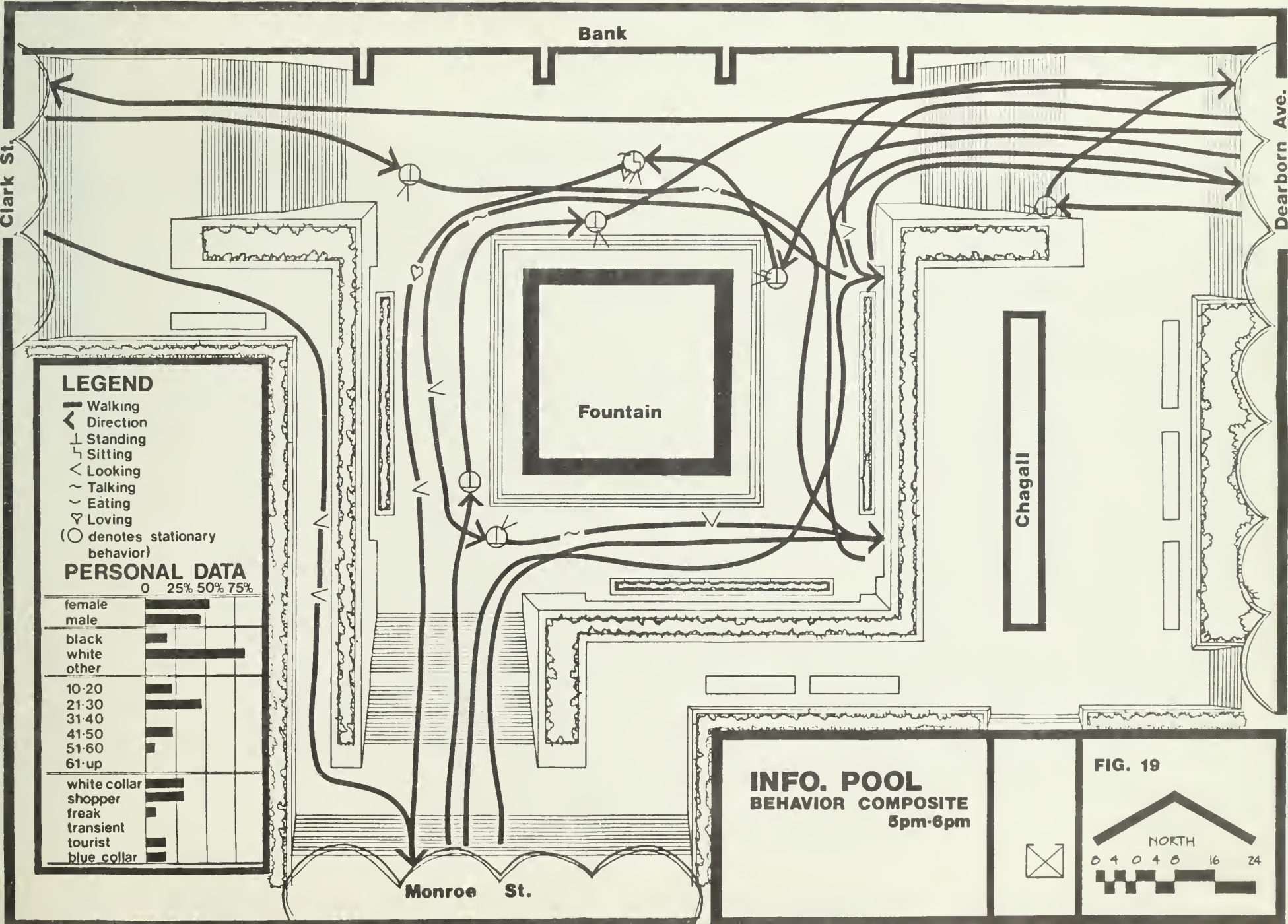












## BEHAVIORS

## TIME

|             | 8-9 | 9-10 | 10-11 | 11-12 | 12-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | Total | %  |
|-------------|-----|------|-------|-------|------|-----|-----|-----|-----|-----|-------|----|
| WALK ONLY   | 18  | 19   | 21    | 14    | 9    | 12  | 10  | 19  | 18  | 6   | 146   | 52 |
| WALK/WATCH  | 2   |      |       | 1     | 1    | 1   | 7   | 2   | 1   | 6   | 21    | 7  |
| WALK/TALK   | 1   | 3    |       |       | 2    | 1   | 2   | 4   | 2   | 3   | 18    | 6  |
| STAND ONLY  |     |      |       |       | 2    |     | 1   |     |     | 1   | 4     | 1  |
| STAND/WATCH | 1   | 3    | 3     | 1     | 10   | 2   | 4   | 2   | 1   | 4   | 31    | 11 |
| STAND/TALK  |     | 1    |       | 1     | 6    |     | 2   | 1   | 1   | 1   | 12    | 4  |
| STAND/OTHER |     |      | 1*    |       |      | 2*  |     |     | 1*  |     | 4     | 1  |
| SIT/WATCH   |     |      |       | 2     | 2    | 3   | 2   | 4   | 2   | 2   | 17    | 6  |
| SIT/TALK    |     |      |       | 2     | 3    | 3   | 1   | 3   | 1   | 1   | 14    | 5  |
| SIT/EAT     |     |      |       | 1     | 2    | 1   | 1   | 1   |     |     | 6     | 2  |
| SIT/READ    |     |      |       |       |      |     | 3   | 2   |     |     | 5     | 2  |
| SIT/LOVE    |     |      |       |       |      | 1   |     |     |     | 1   | 2     | 1  |
| SIT/OTHER   |     |      |       | 1**   |      |     |     |     |     |     | 1     | 1  |

\* buying food, touching water, take pictures

\*\* listening to guide

## BEHAVIOR SUMMARY

FIG. 20

Clark St.

Dearborn Ave.

Bank

Fountain

Chagall

### LEGEND

- Major Flow Path
- Intermediate
- Minor

Monroe St.

**INFO. POOL**  
TRAFFIC 8am-6pm

(random selection)

FIG. 21



Clark St.

Dearborn Ave.

Bank

Fountain

Chagall

Monroe St.

# LEGEND

- Walking
- Direction
- Standing
- Sitting
- Looking
- Talking
- Eating
- Loving
- (○ denotes stationary behavior)

## PERSONAL DATA

0 25% 50% 75%

|              |  |  |  |  |
|--------------|--|--|--|--|
| female       |  |  |  |  |
| male         |  |  |  |  |
| black        |  |  |  |  |
| white        |  |  |  |  |
| other        |  |  |  |  |
| 10-20        |  |  |  |  |
| 21-30        |  |  |  |  |
| 31-40        |  |  |  |  |
| 41-50        |  |  |  |  |
| 51-60        |  |  |  |  |
| 61-up        |  |  |  |  |
| white collar |  |  |  |  |
| shopper      |  |  |  |  |
| freak        |  |  |  |  |
| transient    |  |  |  |  |
| tourist      |  |  |  |  |
| blue collar  |  |  |  |  |

INFO. POOL  
STATIONARY BEHAVIOR  
8am-6pm

(random selection)

FIG. 22



|       | WALK ONLY | WALK WATCH | WALK TALK | STAND ONLY | STAND WATCH | STAND TALK | STAND OTHER | SIT WATCH | SIT TALK | SIT EAT | SIT READ | SIT LOVE | SIT OTHER | TOTAL | %  |
|-------|-----------|------------|-----------|------------|-------------|------------|-------------|-----------|----------|---------|----------|----------|-----------|-------|----|
| 10-20 | 25        | 4          | 6         | 2          | 1           | 1          | 2           | 2         | 2        | 1       | 1        | 2        |           | 49    | 18 |
| 21-30 | 51        | 8          | 7         | 1          | 10          | 5          | 1           | 9         | 8        | 2       | 2        |          | 1         | 105   | 37 |
| 31-40 | 31        | 3          | 4         | 1          | 10          | 1          |             | 1         | 1        |         | 1        |          |           | 53    | 19 |
| 41-50 | 15        | 5          | 1         |            | 8           | 4          |             | 1         |          |         |          |          |           | 34    | 12 |
| 51-60 | 20        | 1          |           |            | 2           | 1          | 1           | 3         | 3        | 1       |          |          |           | 32    | 11 |
| 61+   | 4         |            |           |            |             |            |             | 1         |          | 2       | 1        |          |           | 8     | 3  |

|              |    |    |   |   |    |   |   |   |   |   |   |   |   |     |    |
|--------------|----|----|---|---|----|---|---|---|---|---|---|---|---|-----|----|
| White Collar | 67 | 15 | 8 | 1 | 14 | 3 | 2 | 5 | 9 | 3 | 3 |   |   | 130 | 46 |
| Shopper      | 40 | 2  | 6 | 1 | 8  | 3 | 1 | 4 | 2 | 3 | 1 | 1 |   | 72  | 26 |
| Freak        | 6  | 1  | 1 | 1 | 2  | 1 | 1 | 4 | 1 |   | 1 | 1 |   | 20  | 7  |
| Transient    | 4  |    |   |   | 1  |   |   |   |   |   |   |   |   | 5   | 2  |
| Tourist      | 4  | 2  | 3 |   | 4  | 2 |   | 2 |   |   |   |   | 1 | 18  | 6  |
| Blue Collar  | 25 | 1  |   | 1 | 2  | 3 |   | 2 | 2 |   |   |   |   | 36  | 13 |

BEHAVIOR BY AGE-TYPE

FIG. 23

# BEHAVIOR

| SEX  |        | WALK ONLY | WALK/WATCH | WALK/TALK | STAND ONLY | STAND / WATCH | STAND/TALK | STAND/OTHER | SIT / WATCH | SIT / TALK | SIT/EAT | SIT/READ | SIT/LOVE | SIT/OTHER | TOTAL | %  |
|------|--------|-----------|------------|-----------|------------|---------------|------------|-------------|-------------|------------|---------|----------|----------|-----------|-------|----|
|      |        |           |            |           |            |               |            |             |             |            |         |          |          |           |       |    |
| SEX  | FEMALE | 53        | 6          | 10        | 2          | 11            | 4          | 1           | 5           | 6          | 4       | 1        | 2        |           | 105   | 37 |
|      | MALE   | 93        | 15         | 8         | 2          | 20            | 8          | 3           | 12          | 8          | 2       | 4        |          | 1         | 176   | 63 |
| RACE | BLACK  | 41        | 3          | 4         |            | 4             | 5          | 1           | 5           | 1          |         | 1        |          |           | 65    | 23 |
|      | WHITE  | 98        | 18         | 14        | 3          | 25            | 6          | 3           | 12          | 13         | 6       | 4        | 2        | 1         | 205   | 73 |
|      | OTHER  | 7         |            |           | 1          | 2             | 1          |             |             |            |         |          |          |           | 11    | 4  |

## BEHAVIOR BY RACE - SEX

Clark St.

Dearborn Ave.

Bank

Fountain

Chagall

Monroe St.

female  
male  
black  
white  
other

PERSONAL DATA

0 25% 50% 75%

female  
male

black  
white  
other

10-20  
21-30  
31-40  
41-50  
51-60  
61-up

white collar  
shopper  
freak  
transient  
tourist  
blue collar

INFO. POOL  
RACE-SEX 8am-6pm

(random selection)

FIG. 25



Clark St.

Bank

# PERSONAL DATA

0 25% 50% 75%

female

male

black

white

other

1 10-20

2 21-30

3 31-40

4 41-50

5 51-60

6 61-up

a white collar

b shopper

c freak

d tourist

e transient

f blue collar

LEGEND

Fountain

Chagall

Monroe St.

INFO. POOL

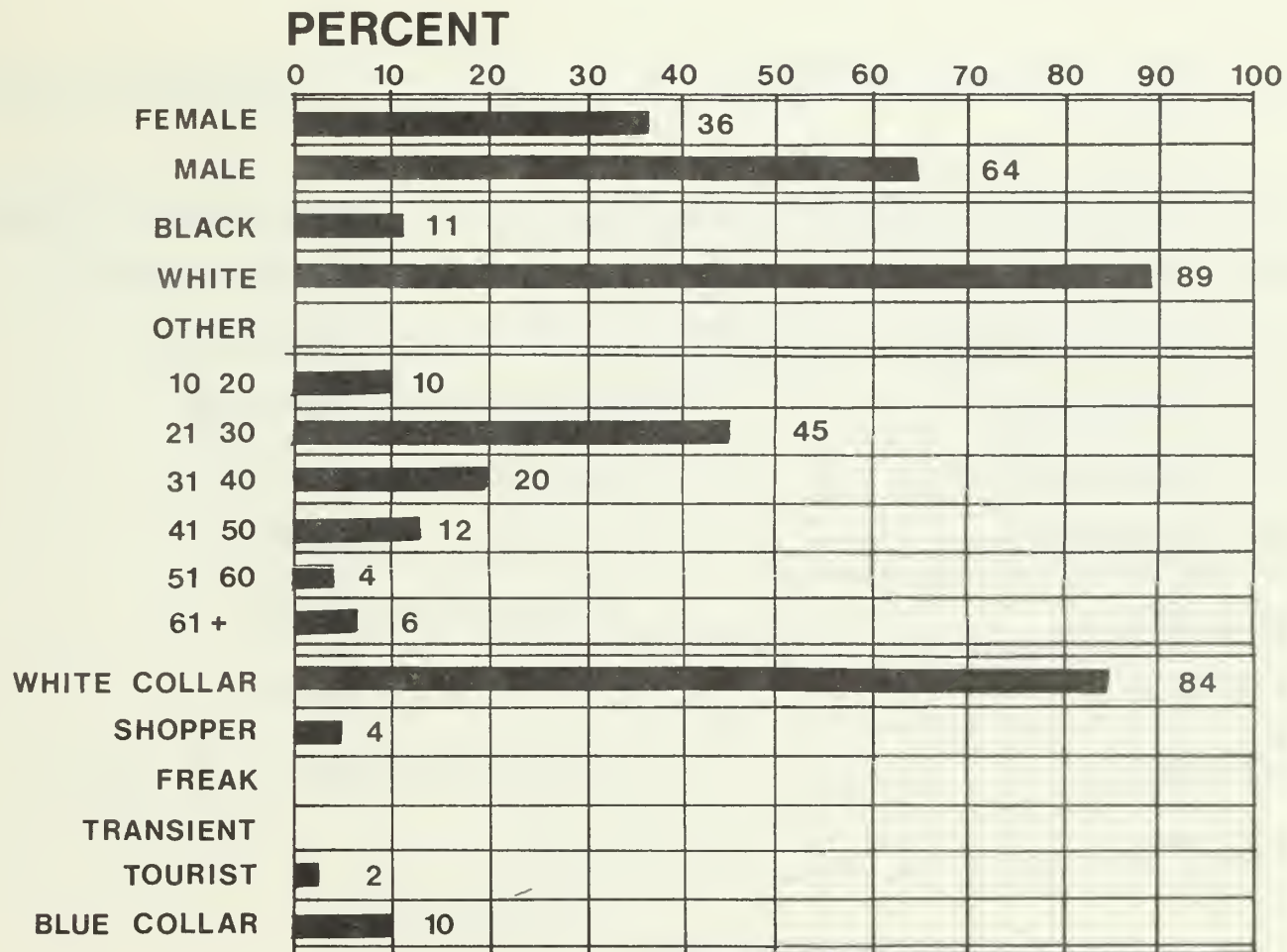
AGE-TYPE 8am-6pm

(random selection)

FIG. 26

NORTH

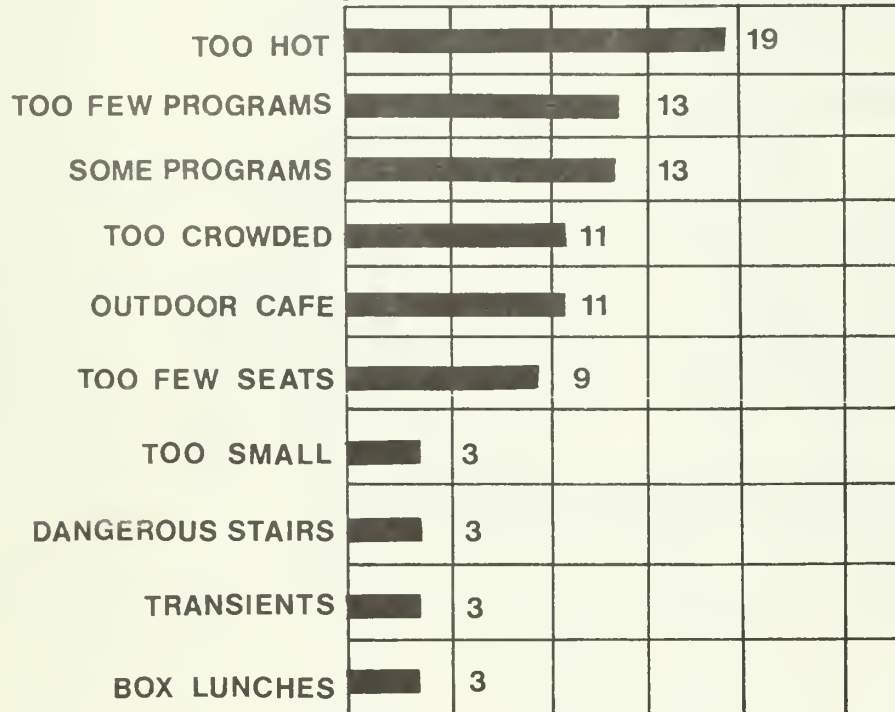
0 4 0 4 0 16 24



### What do you dislike?

PERCENT

0 5 10 15 20 25

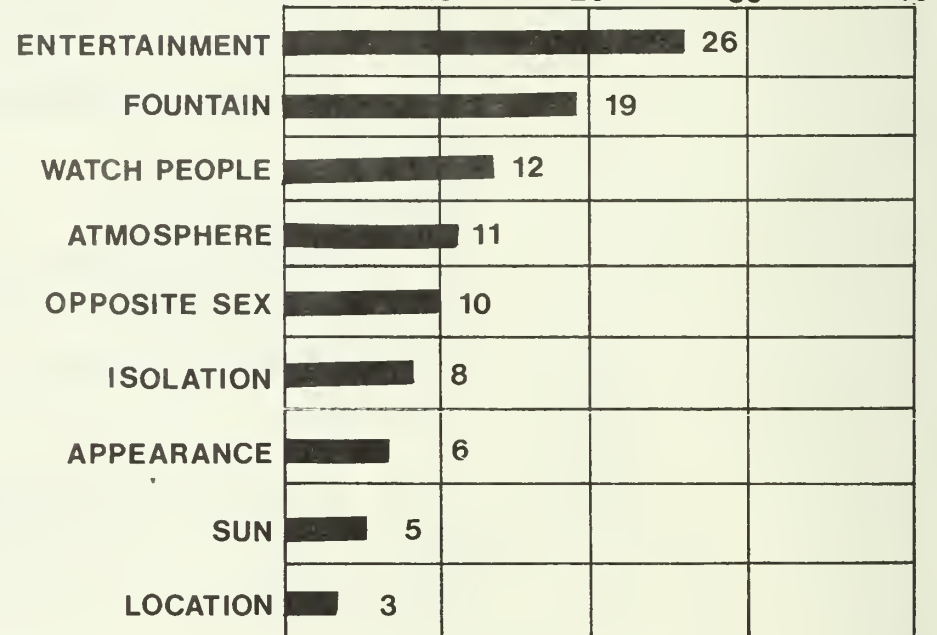


ALSO: 3% NO TAVERNS, LOUDSPEAKER, FOUNTAIN,  
COMMERCIALIZATION

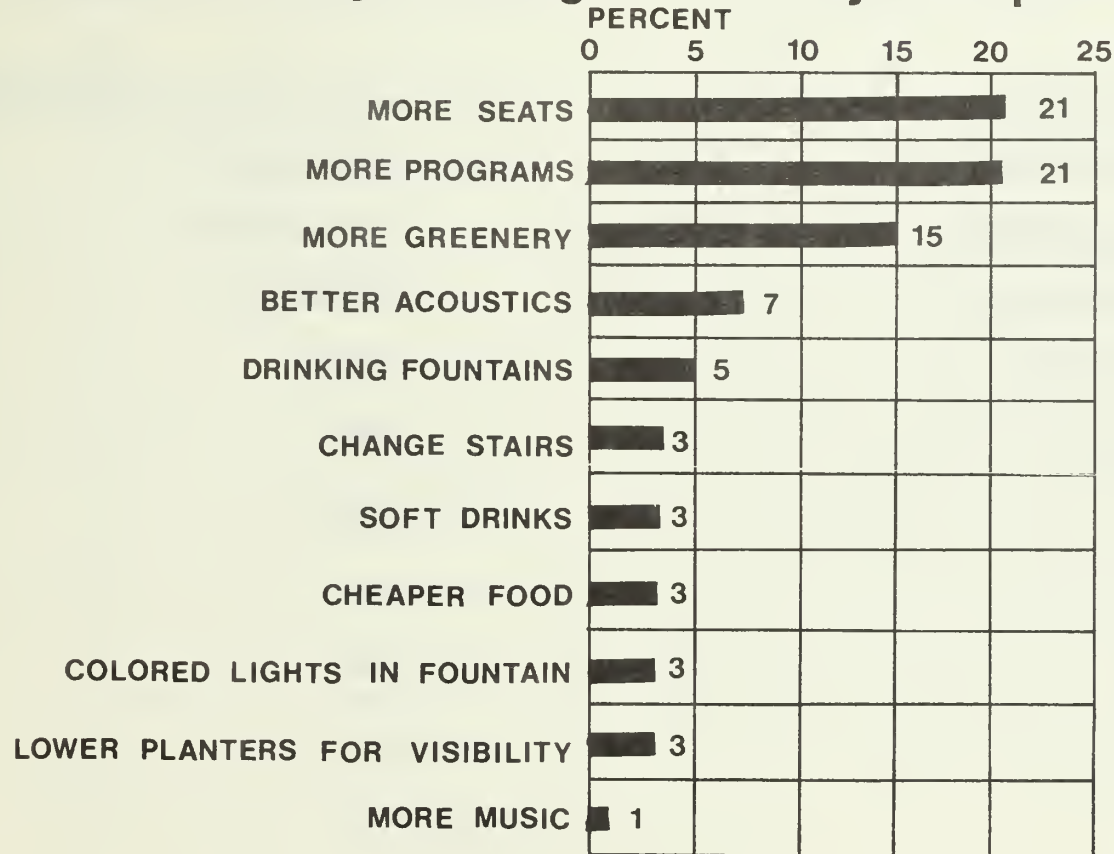
### What do you like?

PERCENT

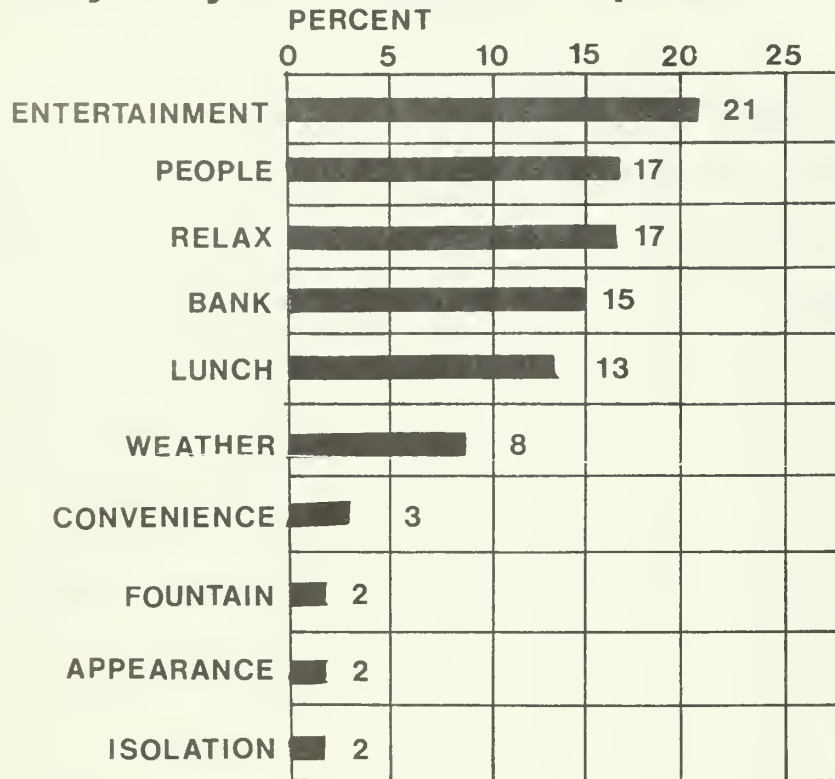
0 10 20 30 40



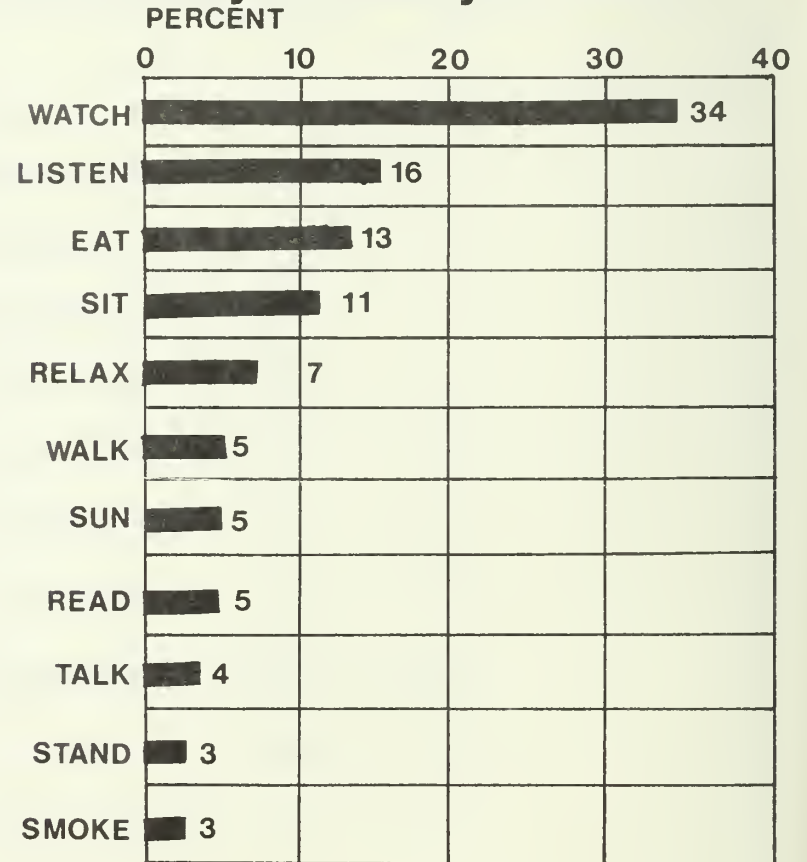
## How would you change or modify this plaza?



### Why do you come to this plaza?



### What do you usually do here?







## 4. THE FINDINGS

The analysis phase was put to discovering how the physical properties of the Plaza either hindered or facilitated the execution of behaviors. Two objectives were in mind, the first being to heighten an awareness of human interaction with the physical environment toward the possibility of isolating insights capable of being generalized to other cases. Considering, however, that a finding's potential for generalization is proportional to the number of times it has been known to repeat itself, any unqualified projection from this study alone is risky business.

The second, and most basic intention, was to determine the degree to which the designer's goals were met. Reactions to this aspect must be tempered as well, especially in respect to the impression that the designers' decisions were being judged. By their nature, "findings" raise questions about the design's appropriateness. However, it should be understood that the findings which follow here were not meant to be conclusive. Having been drawn from but a cursory inspection of a limited information pool, they should be taken as samples. And only immediately apparent ones at that, reflecting what was considered adequate to give some indication about the promise of the methods used in the study.

Further limiting the judgmental character of the findings is the fact that user-based evaluations, under the best of conditions, generate only one dimension of insight. No attempt was made to assemble other factors which ordered decisions, much less rank their importance. Nor was it determined if the issues raised resulted from shortcomings or trade-offs for the satisfaction of conflicting requirements.

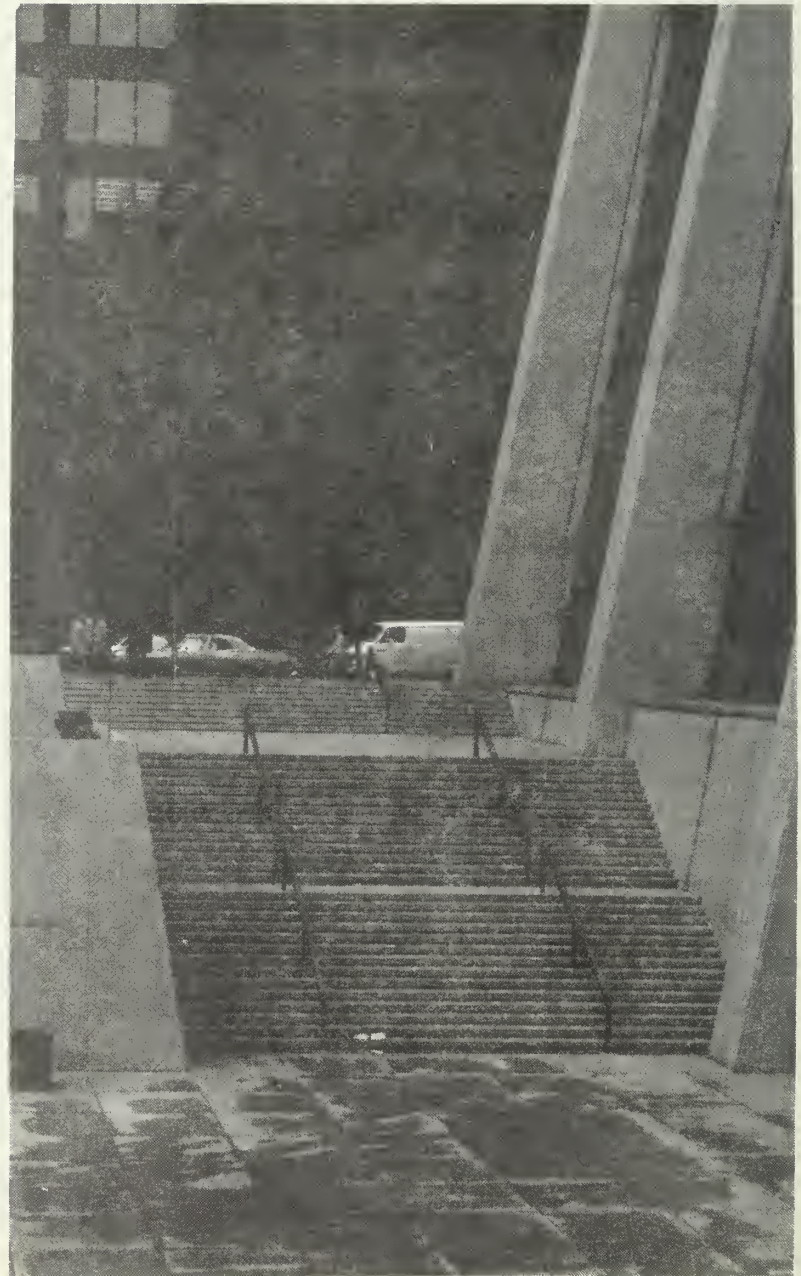
Objective 1: Draw a variety of people ... no particular "type" ... just anyone and everyone.

The small size of the sample renders the personal data difficult to interpret in a meaningful way. Yet, it does raise a few points of interest. White collar "types" predominate, which is a reasonable expectation considering the nature of the location and surrounding businesses. Strikingly absent are transients (the study's euphemism for derelicts). It would be useful for designers to learn why, especially if the conclusions could be compared against the factors underlying the multitudinous appearance of derelicts in any number of other well known plazas, malls and urban parks. Such an understanding could add its touch of realism to design program development so as to avoid the embarrassment (and indeed the problems

of dysfunction) which occur when a space is planned to accommodate the needs of one societal segment, only to have another population turn out to pervade the site.

Another curiosity is aroused by the apparent lack of "turfig" ... in a sense, the favoring of one portion of the place on the part of a specific population. For reasons similar to the above, turfig behavior, where it does occur, deserves to be analyzed toward understanding what there is about a setting that either attracts or repels an identifiable user group.

To desire to attract groups is to plan for their needs. In that respect, one population does receive short shrift -- the elderly and others with ambulatory problems. The massive step cascades are decidedly unsympathetic as was dramatized in a number of observations of older citizens attempting to negotiate the staircases in painful slow motion. True, an elevator is available, but visitors ... especially newcomers ... should not be expected to be aware of its existence due to its wayside location and lack of signing or other visual information suggesting its presence. Those in wheelchairs or otherwise acutely handicapped are virtually denied access to the fountain and other features on the lower level. For if perchance they were to discover the elevator lobby, four steps remain to be surmounted before the door could be reached.





Objective 2: Serve basically as a through walk or access way to peripheral buildings and/or a place to sit, watch and relax.

Is the place used at all? Logically preceding more specific queries about use according to designer's intentions, it is, of course, a simple question to answer. It is also a most telling one in terms of the designer's programming ability. This is especially so if the finding proves negative ... which occurs in more cases than designers care to admit ... an ultimate indictment levied by the user against the inappropriateness of the development.

The Plaza passes this elementary test magnificently. In addition, the manner of usage is generally consistent with the stated objectives. People do walk through as well as to entries and spots within. Curiously enough, the most popular through channel is the lower level and up to reach the other side. This could be taken as a testimonial to the drawing power of the fountain.

At odds with this major flowpath, however, is the squared-off nature of the steps surrounding the fountain posing a potential hazard to the frequent corner cutting traffic. Apparently, the designers were aware of the problem, having placed a pattern of warning discs in the pavement at the points in question. This technique is not entirely sufficient (perhaps due to the fact that sun angles render the step risers invisible during portions of the day), for two instances of stumbling across the corners were noted over the course of the study.

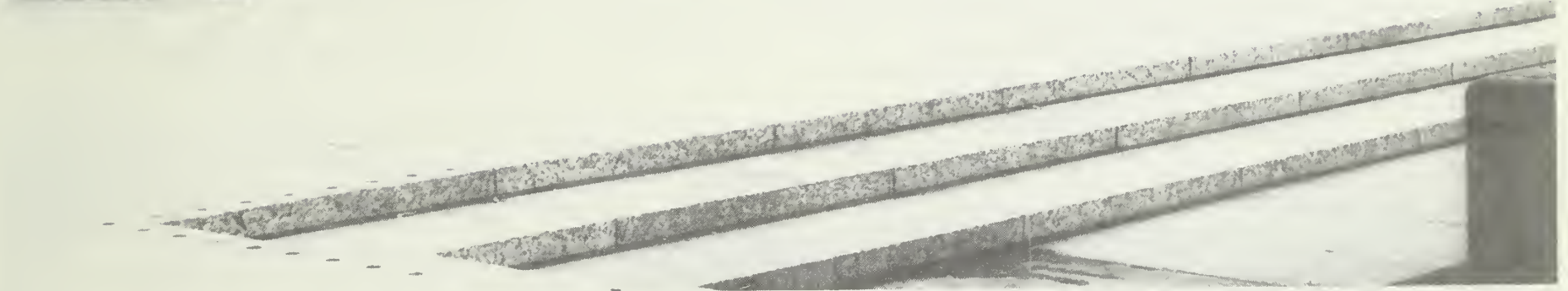
Seating is accommodated primarily by way of steps and planters. While their orientation to the fountain and congregations of people services "watching", their linear design is not well suited for conversation.

Conversationalists were constantly observed in uncomfortably angled postures, all that the design allowed toward bringing about eye contact with an adjacent neighbor. Indeed, many simply stood to gain a face-to-face position rather than occupy an available space on a planter.

The planter on the lower level in front of the restaurant is the most ill-suited of all for sitting purposes of any sort. It measures approximately a foot in height thereby thrusting a sitter's knee into his chest. Apparently, the planter was built low so as to allow a view of the fountain from within the restaurant. As irony would have it, however discomforting, scores of people do perch all around the planter during the main eating hour, their torsos serving nicely to block the view. Those sitting on the backside of the planter can stare directly into the eating facility which, to complete the irony, may be the reason why the restaurant has now screened off his windows.

Planters and steps fill up quickly during peak hours requiring many to stand around during the most popular times. Nine percent of the interviewees requested "more seats", which while not raising the issue to the top of the list, does suggest a point of concern. In some degree, this expression (along with the inconveniences thrust upon conversationalists) opposes "relaxation".

So too does the Plaza's lack of relief from the sun, a dissatisfaction voiced by nineteen percent of the interview sample and readily experienced by the research team. While the streetside temperature lingered in the 70's, significantly higher levels were reached in the sunken area, the disparity aggravated by the glare rebounding from the unyielding reaches of white granite.







Objective 3: Be flexible -- service its basic functions as well as be adaptable for special events as exhibits and entertainment programs.

The Plaza's sitting and walking functions take place in essentially common space: planters and benches edge the through channels; sitters use the steps. The peripherally placed seats pose no obstacle to passage and are acceptably located for watching the action go by. (It can be argued, however, that this mix of sitting and moving falls short of serving the relaxing objective in that no alternatives off of the constantly beaten path have been provided for those whose relaxation requires a quieting of scale, a minimum of distraction and/or a modicum of privacy.

On the stair flights where one might have expected the greatest conflicts between travellers and sitters, an interesting phenomenon to the contrary occurred. As cued by the density maps and confirmed by the 35mm slides, sitters clustered on the edges, not only leaning against the wing walls, but also nestling along the handrails which dissected the staircases. Thereby, for the most part, through channels were maintained in the middle. Gravitation to edges with a resulting maintenance of mid-channels repeated itself with equal regularity among those standing about on the lower level.

The maps also show an incipient gathering of people at corners around the site. While this pattern does not emerge as fully as the edging phenomenon, it does hint at a possibly significant generalization.

Two counts of adaptability for special functions were witnessed. Firstly, for entertainment shows, a portable stage was erected in front of the bank entrance and remained there vacant during the times in which the observations were being made. During the peak walking-sitting hours, people sat on its rim or stood around its perimeter. In this case, fidelity

to the edging phenomenon choked a major pedestrian channel.

Visits were made to the site after the observations were taken in order to experience entertainment in progress, once on the noon hour and then in the evening. Use patterns for these extra-curricular periods are not shown in the information pool inasmuch as only informal reports were made. During the daytime event, the audience either bellied up to the platform or sat on the steps, the stage being well located within view of the major cascades. For the evening program, the seating capacity was augmented by rows of folding chairs placed in the channels flanking the fountain.

On the one hand, the stage's central location serves the entertainment function well. Yet, it was also seen as a traffic impediment. This problem is inconsequential during the evening when the movement need is minimal. During the day, the problem advances in degrees. Even though the intermediate level and the lower level jog east of the fountain remain somewhat available for through travellers, the masses around the stage with a show in progress still plug up the main bank entrance. Whereas the vacant stage not only clogs the artery by virtue of the huddles it attracts, it also stands oddly as a visual afterthought.

The second example of adaptable usage was the placement of chairs and tables on the intermediate level north of the cooling unit to function as an outdoor cafe. This set-up was absent during the observation period, hence the resulting use patterns are not indicated on the information pool maps. It was, however, present when the interviews were solicited, receiving a negative reaction from eleven percent of the respondents. One reason underlying this dissatisfaction may be obvious. Unlike the stage which merely sits as a roadblock to be negotiated around, this

facility impenetrably plugs up a passageway, in this case, a direct route to and from the Chagall mosaic.

It is difficult to imagine where a special gathering of any magnitude could be accommodated without interrupting the traffic flow. The layout is essentially a number of aisles, each too narrow to allow passage around facilities strung in the middle. There are no sub-spaces to the side, except perhaps east of the Chagall. But to encourage usage unrelated to the mosaic in this area would present its own set of problems, not the least of which might be security coverage of the work.

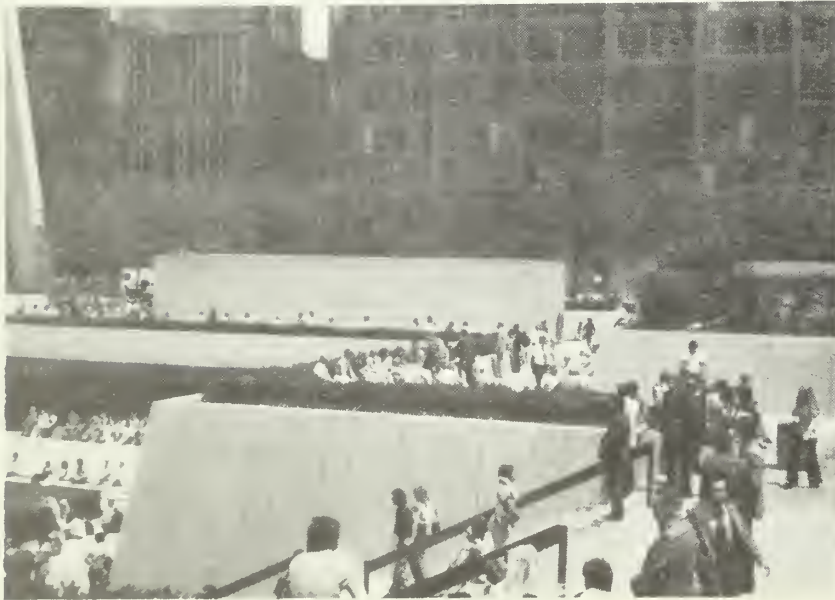






Objective 4: The intermediate level -- for observing the fountain and happenings on the lower level.

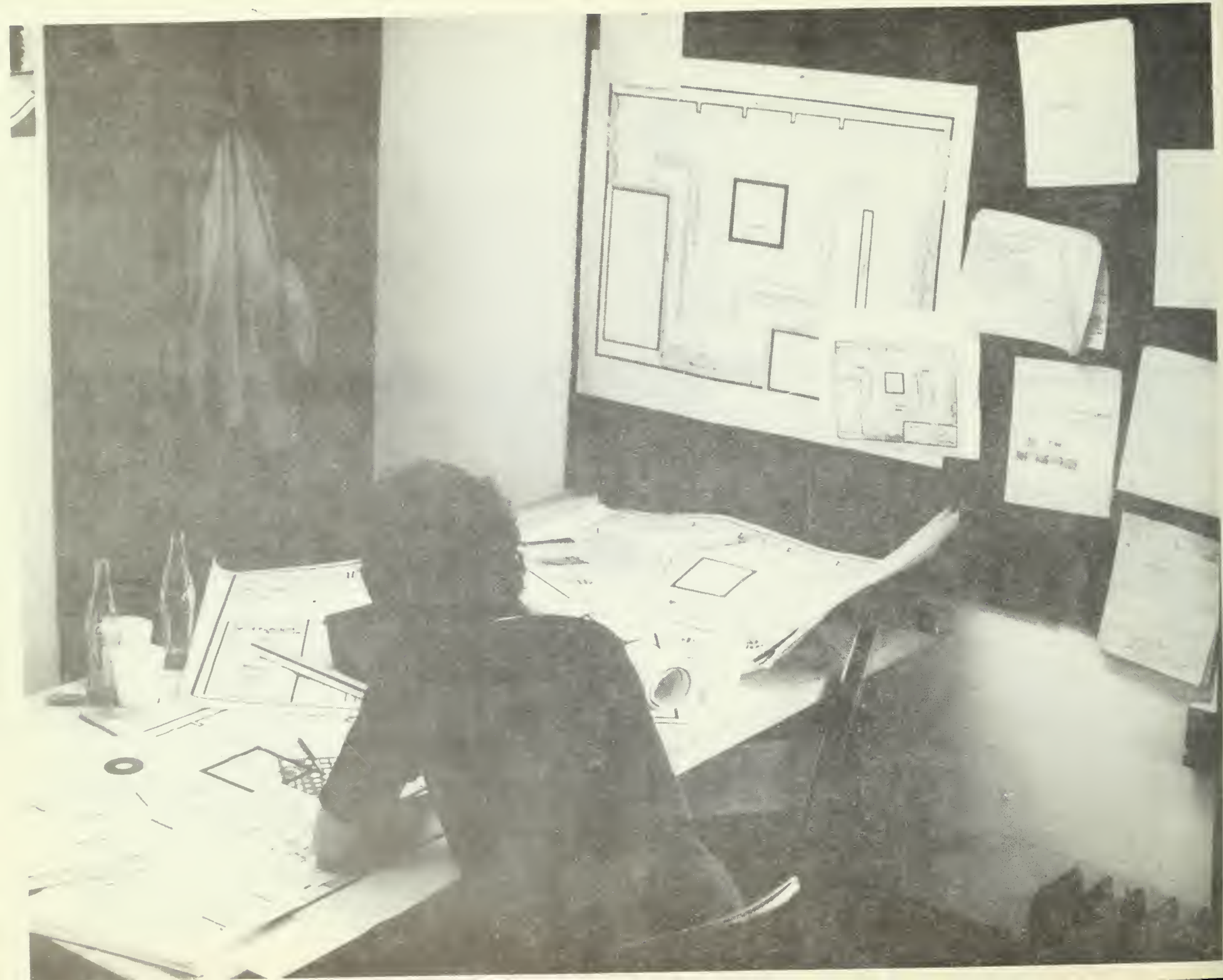
The height of the plantings intrudes upon the viewing angle of those who are walking by. The sight lines becomes fully blocked during peak hours by the torsos of those sitting on the walls. Sitters are obliged to position themselves with backs to the lower level or twist aside into uncomfortable postures in order to survey the scene below. A full view is available only if one stands smack against a wall or, as was repeatedly observed, immediately in front of a supposedly relaxing sitter. The best view, completely unobstructed even during peak times, was discovered by a number of users to be atop the high wall to the west at the base of the Consumer Finance Building. This is restricted, however, to those with enough spring in their legs to climb the parapet.



Objective 5: The lower level -- minimally encumber  
spontaneous behaviors.

Little was concluded addressed to this point. However, by the absence of people cavorting about in the fountain ... as hot as it was ... it was noted that while the trough and spillway perimeter allowed some physical contact with water, the high sides would appear to inhibit the whimsies of those who might be inclined to wade in.





Witnessing is also to indelibly inscribe realities upon the mind, lessening the likelihood that they will be rhetorically begged.

Could like findings have evolved through less systematic, less arduous techniques? Perhaps as well. An eyes-open strolling about with an occasional stop to rap with a user might have conceivably picked up every one of the issues raised in this study. It remains, however, that the employment of an organized plan forces one to look and to ask and to do so continuously. Such disciplining of the inspection would appear to sustain the worth of any systematic approach regardless of the inadequacies discovered in methodological details.

To some extent, the inadequacies of the methods chosen for this study can be traced to early stage uncertainties about the degree of precision required. This threatens to remain a quandry. Should the primary effort be toward generating statistics or graphic records of use? Must findings be supported according to the social scientist's rules of validity or is it enough to conclude via reasoned judgments? Must numbers be fine-tuned or might it suffice to say "many of the people" as opposed to "very few"? Indeed, what is the importance of numbers: might not a single instance of noted conflict alert one to an issue as critical as any revealed through a preponderance of evidence? Granted, frequency of occurrence can prove out a hypothesis whereas a single instance should do no more than trigger a hunch ... in the strict scientific sense. Yet, should such lack of "proof" deter a designer from action in the interest of design enhancement?

Resolutions are unlikely to come about in either-or terms, rather in degrees and on the basis of what might be best able to answer the specific questions being asked in each research case. One generalized

## 5. REVIEW

Overall, the findings appear to speak significantly to the fitness of the design per its use, in the least unveiling a number of issues that ought not to be discharged out of hand. Tentatively then, without fear of sounding totally self-serving, it could be said that this kind of study has some merit as an evaluation tool.

Could similar conclusions have been drawn from a conventional inspection sans users? Perhaps. Users need not be present for one to foresee problems associated with the cafe location or the low planter bench design. But to foresee is still to speculate; to actually witness is to bring the speculation up to fact.

comment does seem in order, however. In the long range toward building an understanding of environmental suitability, norms ought to be established against which particular findings could be compared and as a basis for assessing the relative superiority of one place over another. In that respect, it would appear that statistical modeling cannot be avoided.

The greater questions aside, it is obvious that this study has taken a broad brush-stroke approach. It has relied primarily upon judgments reasoned from graphic imagery with a supporting role assigned to grossly tabulated numbers. On the one hand, this reflects the bias of the study team, all designers who are used to operating in pictorial terms. On the other hand, upon reviewing the designer's objectives, this attack seemed adequate for producing the required insights.

From this pilot experience, there was no attempt to re-orient the procedures in a more sophisticated statistical direction. Rather, attention in the review was given to refining the same basic techniques. Nor was there an effort to model an all-encompassing approach to post construction evaluation, one that might cover all possible questions and instances of project complexity. While adaptations are conceivable vis a vis the evaluation of other subjects, the models which summarize the following reflections respond to the more parochial question: If given the opportunity, how might we go about analyzing the First National Bank Plaza again?

#### DATA COLLECTING

The first thing that retrospection makes abundantly clear is that instrumentation cannot be effectively packaged in one grand move. While the bare bones might be laid out early on, each step in the data gathering process is somewhat dependent upon

what precedes it: A preliminary survey of plans and background precipitates questions to the designers out of which materialize the objectives (the hypotheses). The objectives indicate what information facets (variables) ought to be gathered, which in turn suggest the methods to be employed. In the field, observations are likely to unearth questions to be asked of users, whereas answers to the latter might point out critical places to observe.

This realization added steps to the revised process, with full recognition that to overlay this point would be to demand an untenable time commitment.

Another general lesson of the pilot study was that a multi-method approach to data collecting is mandatory, however successful one means might be on its own terms. Without photography, much of the meaning of the mapped patterns would have been missed; without manually recorded patterns, the fullness of photographed instances would have laid about unrealized; without voiced responses from the users, their actions might not have been understood, etc.

One upshot of this was to provide a more formal role for the photographer.

#### The Focus

It continues to seem reasonable to key the inspection of the site to the same directives which ordered the design. This takes on the cast of direct service to the designer and his client for it strikes at the heart of what they might be most interested in knowing. It does not rule out the possibility that the methods selected to answer questions posed by the designer's objectives might also be used to feed other issues of intellectual interest to the researchers. Regardless, it is important to adhere to a principle of the "least

being best". The focus must be limited. To do otherwise would be to place unrealistic demands upon the research.

The elicitation of design objectives is no mean task, starting from the realities that designers often cannot recall what they were, nor might they be willing to spend time having them drawn out. While this was not the case with this venture, the team nevertheless desired more detail. As such, procedural refinements were suggested toward jostling the designer's memory and otherwise gaining a thorough understanding of intent.

1. The first step, involving an intensive review of plans and background, should conclude with a list of objectives assumed by the research team. Designers should be asked to respond to these along with the "standard" interview questions.
2. All principals involved in establishing design criteria should be interviewed at the onset: project manager, drawing board personnel, client's representatives, etc.
3. After a general familiarization with the problem has been gained, a second interview with a ranking design person should be conducted on the site.

Data gathering methods and instruments should be roughed out after the first interview but not finalized until after the second round.

### Observations

As was originally planned, data collecting should range across a representative number of days and times. Suggestions as to when these might be could be inferred

from the list of objectives, directly asked of the designers and client during their interviews or evolved from some preliminary observation time spent at the site. If, during the course of the formal observations, additional periods seem in order, a follow-up series ought to be considered.

A pre-arranged list of user types and behaviors is essential in recognition of the brief amount of time available for notations and the need for consistency among several independently acting observers. This requires predictions, hence such lists are always vulnerable to additions or deletions as experience would suggest. Two problems are ever-present in the use of pre-determined checklists. One stems from the definitions which are set down to distinguish one user or behavior from another. The second deals with training observers in their application. The cues must be distinct. For instance, the Plaza observers could not tell the difference between a "white collar" user and an "executive". Hence, it might have been noticed that while both categories appear in the instructions, they were both lumped together under "white collar" in the information pool.

Needless to say, observations must be taken unobtrusively to assure that user behavior remains "normal" (non-reactive to the recorder's presence). This could be especially sticky in a strategy which called for users to be "followed around". Fortunately, this site was ideally suited for the maintenance of some distance between recorder and subjects. All could be readily tracked about by eye from elevated stations or from across uncluttered sweeps. Thus, the problem never materialized here.

The primary problem that did occur centered around the light amount of data which the technique produced. Accordingly, refinements were suggested for the purpose of generating additional information.

1. A preliminary observation round should be executed in which base density matter and photographs of "typical" occurrences would be gathered. ("Typical" will have to be operationally defined.) The photographer would also keep a written log citing the potential design implications of his shots.

This would precede both the on-site interview with the designer and the finalization of the methodology, its purpose being to alert subsequent observers to areas of concern and otherwise help to tailor the formal approach. As one example, if this step had been in effect, it would have brought significant usage of the street level to attention, at least generating second thoughts about eliminating that level from the study.

2. The latter stages of method refinement should include a pilot study to test the entire research procedure. (See random sampling discussion below.) This could take place on another site whose conditions approximate those of the ultimate subject.

The random sampling method associated with the manual mapping technique fell far short of yielding the quantity of behavioral data sought. The instruction given to stay with a person until he/she left the site was the most limiting factor, for in the doing, only twenty or so people could be recorded during any given hour regardless of the total population present at the time. One result was that many areas in which the density diagrams showed substantial usage ended up without a single behavior being recorded. The photographic pool was somewhat compensatory, but in this case was relied upon more heavily than was considered desirable. Accordingly, the following was suggested to generate more behavioral data through both mapping and photography.

3. During selected times (probably peak hours), observers would tail subjects only until they executed their first stationary behavior or left the site, whichever occurred sooner. "Stationary" behavior would be defined along the lines of that which took place following a movement halt (the latter assigned some time factor so as to distinguish it from a mere pause in movement continuity). How all of this might compromise a display of traffic patterns remains to be learned.
4. During the formal observation rounds, the photographer would be assigned two tasks:
  - a) Make periodic sweeps of the entire site, maintaining a written log as to noteworthy happenings. This would be to produce an extensive photographic pool which could be reviewed to fill gaps left by the mapping method.
  - b) Take additional shots "for the record" of places and behaviors identified by the mapping team. These could be studied for nuances and provide further understanding of the mapped occurrences.
5. Ideally, density and behavioral mapping and photography should be conducted concurrently with time logs kept so that direct comparisons could be made. This could, however, clutter up the site with researchers to the point of high obtrusiveness. If any of these steps must be spaced apart, they should be made to take place as much as possible during times and days of like conditions.

## User Interviews

For reasons of courtesy as well as second-party cooperation, it seems reasonable to limit on-site interviewing to a small percentage of the time that the interviewed persons typically spend at the place. This site receives short-span usage; questions must therefore be few and simple to comprehend. Undoubtedly, some "good" questions will have to be eliminated from the format for the sake of brevity. As a compensation, a second interview round was suggested.

1. Questions for the first interview round should be rather general, designed to gather a "feel" for the users' reaction to the place. The second interview series can be more pointed, striving to clarify issues raised via the initial round as well as seeking reasons underlying the behaviors noted during the formal observation sessions.

Both interview rounds should therefore follow the observation periods, but be conducted during similar times and days. The first session can proceed immediately after a quick population breakdown is made from the observation data so that interviewee selection can proportionally approximate the kinds of people observed. The second session should be deferred until after a preliminary analysis of both the observation and initial interview data has been undertaken. The preliminary analysis would be expected to reveal additional aspects which ought to be examined in the last interview go-around.

The basic thrust of the interviewing was to cast light upon "likes" and "dislikes". To what degree such responses reflect something of actual importance to the user, however, remains an open question which deserves to be answered for the sake of the designer. It would point out where modifications were essential

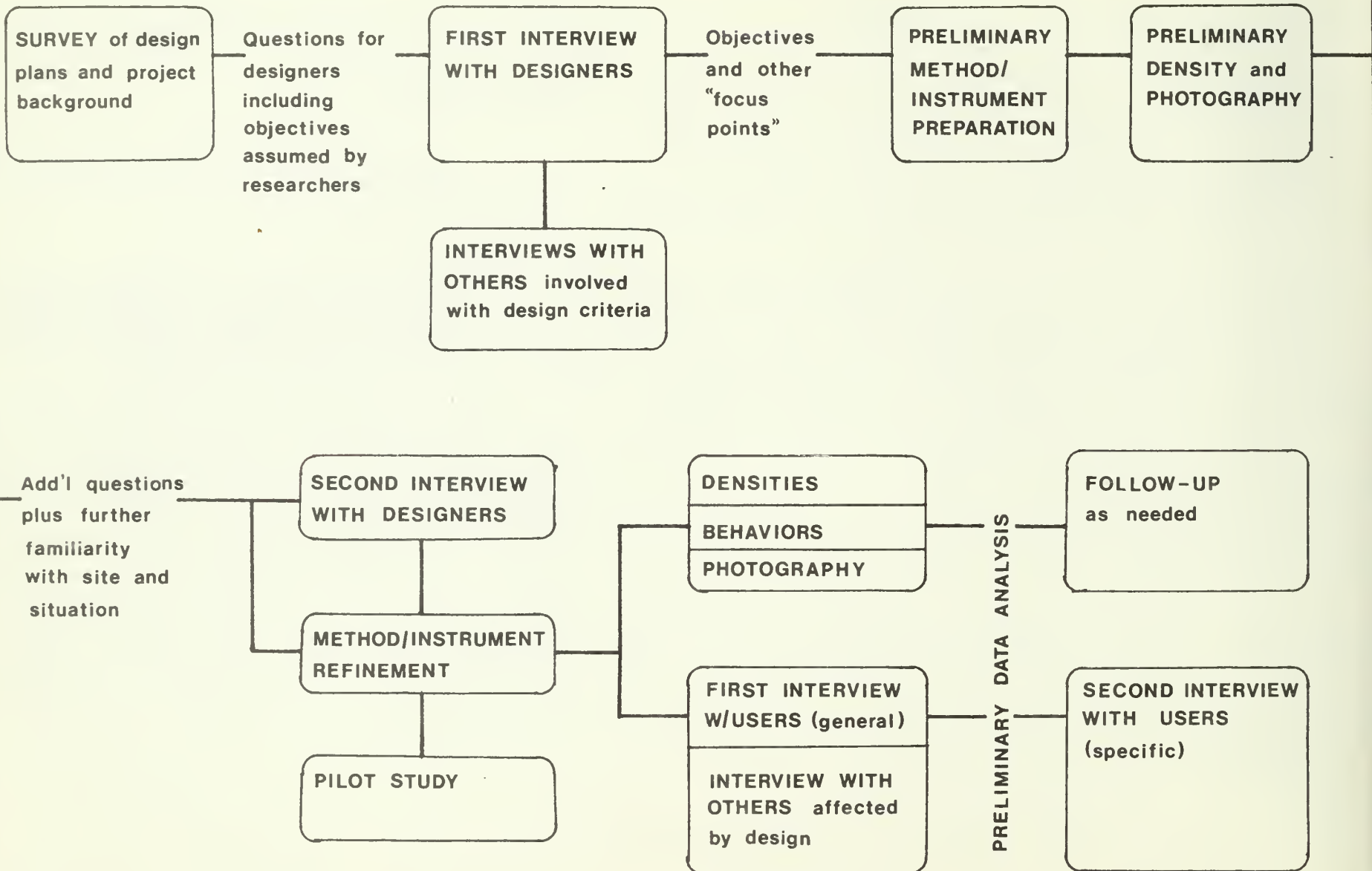
at all costs, what might be traded away for the satisfaction of a greater need and otherwise help to arrange (or re-arrange) priorities for the particular site under investigation as well as for others to come. Accordingly:

2. A methodological strategy for rank ordering both plus and minus user responses deserves to be explored.

And finally,

3. Interviews ought to be considered with parties affected by the design's outcome other than the users: maintenance personnel, program administrators, project neighbors, etc.

Many of the data gathering sub-steps require the making of pre-judgments: the background survey ends with assumed objectives; preliminary density and camera prowl point out some "important" areas and potentially significant concerns; the second interview round is addressed to fleshing out early findings; etc. This creates a spawning ground for bias including a tremendous temptation for subsequently seeing only those aspects which tend to support the preliminary views. Needless to say, however easier said than done, the maintenance of an open mind is critical along with the execution of methods which can potentially unearth insights beyond those hypothetically suggested by the orienting sub-steps.



**DATA COLLECTING**

**FIG. 31**

## DATA ANALYSIS

The basic problem in the analysis phase was a lack of early organization to the effort compounded by the frustrations of being faced with a great variety of data. The ways in which the variables could be associated with each other seemed infinite. In addition to the combinations previously shown, behaviors and densities could also have been related to weather conditions, age and sex treated together, short-cut traffic isolated from Plaza destination movement, etc. Eventually, a semblance of order did settle in but not before a blood oath was taken to systematize the approach from the onset in any future endeavor. A tempering factor was recognized as well. Allowances for departures would also have to be present as mid-stream inspirations might suggest, thereby giving the potential uniqueness of a project ample opportunity to be heard.

What therefore seemed mandatory was a framework of steps to guide the analysis. The following is a possibility toward that end, an "approach to an approach" whose fleshing out must remain until it receives its first trial run. Inasmuch as data categories are called for, the results could also bear back upon the data gathering methodology.

### 1. Categorization.

- a) From under the general headings of Who, What, Where and When, an exhaustive list of possible information variables should be compiled.
- b) Subsequently, a matrix should be drawn up showing how each variable might be played against others in order to expose consequential relationships.

Categorizing and relating "all possible variables" is a formidable task, yet perhaps only for the first time through. Eventually, a relatively standardized structure might evolve, a master list from which items pertaining to the specific job at hand could be readily plucked.

### 2. Discrimination.

- a) Those relationships which would appear to bear most directly upon the research questions being asked should then be isolated.

This would be to bring the analysis down to a manageable size.

### 3. Format.

- a) Determinations should be made as to the form in which the variable summaries and relationships will appear: broadly indicated as maps, tables, line graphs, etc. and more precisely stated as graphic patterns, numerical totals, percentages, etc.

To sort through the data by hand as was done in this study is a debilitating experience. Computer-aided methods are definitely in order, hence appropriate computer programs should be drawn up at this stage. This can be accomplished for not only the quantifiable data (through multi-variate analyses, etc.) but the mapped information as well. The latter can be done by way of an X-Y coordinate digitizer which allows for the location of each user on a two-dimensional replica of the site along with whatever personal and behavioral data is associated with that user. For examination purposes, the information can then be recalled in whatever combination desired, displayed on either map print-outs or a video-like cathode ray tube.

4. Raw Results.

- a) In the forms thus determined, all of the variables should be summarized and the selected relationships drawn.

5. Preliminary Analysis.

- a) The raw results should be initially examined on their own merits for revelations.
- b) The concerns isolated through photography should be screened as to the conjectures they raise, then related to the systematically accumulated data in search of possible corroborations.

6. Context Analysis.

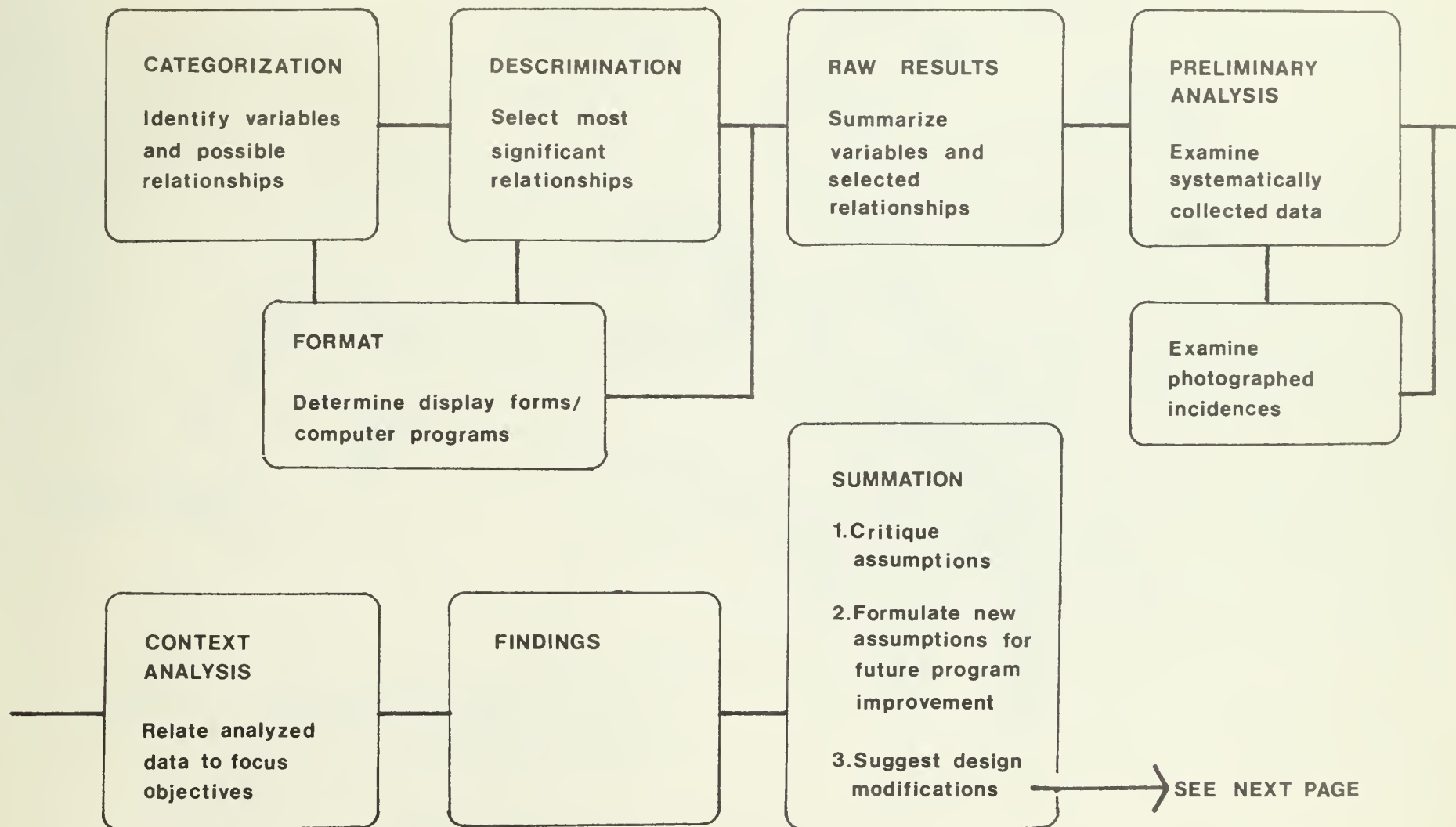
- a) Each summary, relationship and isolated concern should then be addressed against the focus objectives as to possible relevancy.
- b) Determinations should be made as to the need for follow-up data and the appropriate measures taken.

7. Findings.

- a) Conclusions should naturally follow as a summarization of Step 6. All of the connections between the data and the objectives should be included in the report, not just those supported by a "preponderance" of evidence (however that might be defined). The purpose would be to present the case, giving the recipient the final say as to the ultimate significance.

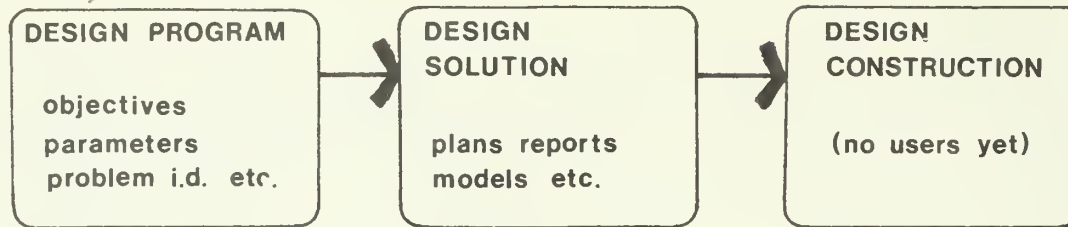
8. Summation.

- a) In light of the findings, final commentary should concentrate upon a critique of the designer's assumptions (confirmations, invalidations, qualifications, etc.), as would be helpful in preparing design programs for similar projects in the future.



# LINEAR "DESIGN PROCESS" - The Familiar Model

The  
Beginning



The  
End

## CIRCULAR "DESIGN PROCESS" - An Alternative

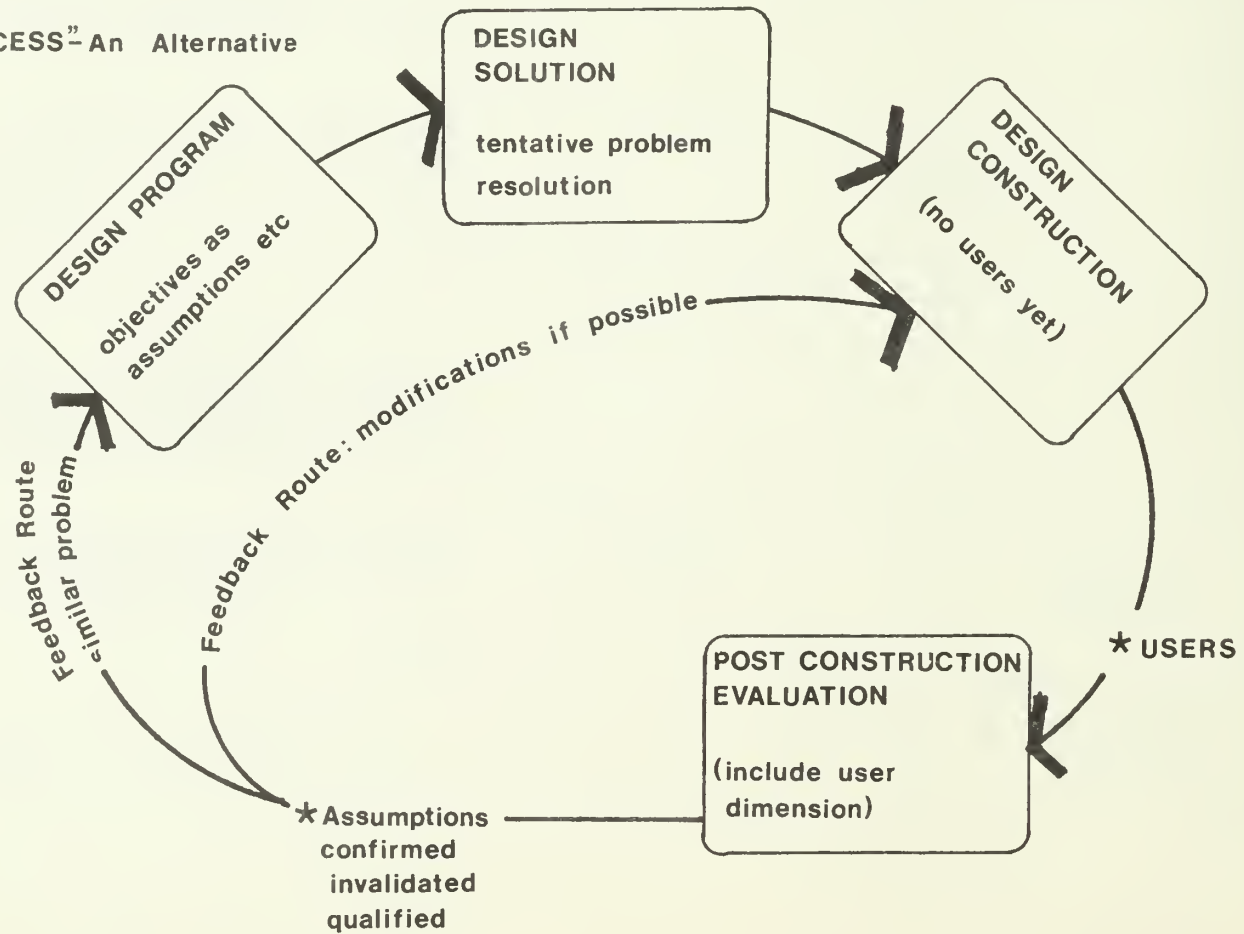


FIG. 33

involved. That need not render the evaluation as just another academic exercise, however. As stated throughout this report, there is always another day. Any evaluation has lessons in it to be applied to the next job of a similar kind.

Figure 33 suggests that design has most often been looked upon as a linear process which expires upon the execution of the construction contract. Whereas in reality, the end is not an absolute. It is only a place where the beholder has chosen to put his punctuation mark. Toward enhancing the fit between humans and their built environment, a circular process deserves consideration, one without periods, only commas, a continuum of assumptions made, assumptions tested, assumptions reassessed, new assumptions made, ad infinitum. The place of post construction evaluation in that model is self evident.

## POSTSCRIPT

Suggestions for improving the properties of the evaluated site might also be a part of the analysis summation. These could be in the form of broadly coached alternatives or explicit re-design proposals. Such an exercise was engaged in by the study team, but the results are not reported here. To do so might have detracted from the method-oriented purpose of this pilot venture.

Realistically, re-design suggestions may not actually be useful in all cases. Modifications called for by the findings might simply be too expensive to make, however otherwise considered advisable by all

This pilot study is one small attempt to bring that circular design process into working order. The post construction evaluation process can likewise be looked upon as never-ending, lessons learned from the past leading to new assumptions to be tested in the future. Which means that the next step is to try again. On another day. Perhaps at another place.

Only do it better.



PHOTOGRAPHY

Pages 7 and 53 by Hedrich-Blessing, Chicago.  
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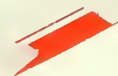
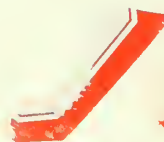














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